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CONTENTS

CHEMICALS AND ALLIED PRODUCTS.....1035 - 1056, 1089 - 1121
DYES.....1035 - 1040
PLASTICS AND PLASTICIZERS.....1040 - 1043
MISCELLANEOUS CHEMICALS.....1043 - 1056

FUELS AND LUBRICANTS.....1056

MACHINERY (EXCEPT ELECTRICAL).....1056 - 1058

MEDICAL RESEARCH AND PRACTICE, INCLUDING CLINICAL APPLICATION OF DRUGS AND PHARMACEUTICALS.....1058 - 1062

MINERALS AND MINERAL PRODUCTS.....1062

PERSONNEL APTITUDE TESTING AND JOB TRAINING.....1062 - 1063

PHOTOGRAPHIC AND OPTICAL GOODS (INCLUDING PHOTOGRAPHIC PROCESSING)..1063-1070, 1121 - 1123

PHYSICS.....1070
GENERAL.....1070

PRINTING, PUBLISHING, AND ALLIED INDUSTRIES.....1070 - 1071

TEXTILES AND TEXTILE PRODUCTS.....1071

TRANSPORTATION EQUIPMENT.....1071 - 1082
AERONAUTICS.....1071 - 1082
AIRCRAFT.....1075 - 1077
INSTRUMENTS.....1077 - 1078
ENGINES AND PROPELLERS.....1078 - 1081
OPERATIONS.....1081 - 1082
LAND TRANSPORTATION.....1082

MISCELLANEOUS.....1082 - 1088

PATENTS.....1089 - 1123
CHEMICALS AND ALLIED PRODUCTS.....1089 - 1121
PHOTOGRAPHIC AND OPTICAL GOODS (INCLUDING PHOTOGRAPHIC PROCESSING).....1121 - 1123

REGISTER OF PATENTS AVAILABLE FOR LICENSING OR SALE.....1124 - 1126

* Indicates that reports in the BIOS, CIOS and FIAT series are deposited in the Library of Congress Depository Libraries. For a complete list of these libraries, see page facing page 1, volume 5, of this Bibliography.

In addition to the indexes described on the back cover of this Bibliography, the Office of Technical Services has published the following reference works:

PB L 58101-R. SWIFT, GRACE. Government document series, analyzed by Office of Technical Services. Rev. Nov 1947. 45 p. Price: 25¢

PB L 78000. LOWRY, W. KENNETH. OSRD reports: Bibliography and index of declassified reports having OSRD numbers. Jun 1947. 105 p. Price: 75¢

PB L 79322. SWIFT, GRACE and ORNE, JEROLD. Subject headings for technical libraries. Jun 1947. 167 p. Price: $1.50

PB L 81803. U. S. OFFICE OF TECHNICAL SERVICES, TECHNICAL INDUSTRIAL INTELLIGENCE DIVISION. Reports resulting from the investigation of German technology, 1945-1946, and index of personnel. May 1947. 207 p. Price: $5.25

CHEMICALS AND ALLIED PRODUCTS

Dyes

PB L 77672. KERN, J. G. and others. Identification of biological stains and indicators manufactured by I. G. Farbenindustrie, A. G. (FIAT Final Rept 1004). Mar 1947. 27 p. Price: Miseo-$0.75
The I. G. Farbenindustrie A. G., manufactures biological stains and indicators, the identity of which has been established with reference to the textile dyestuffs and organic chemicals from which they are prepared. The methods of testing these products for acceptance as standard stains and indicators have been determined. Pertinent data are presented in this report.

PB L 27920. JULIUS and MAIER, JOHANN. Preparation of alkylated amines of the fatty and aromatic series. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6686-6693 of FIAT Microfilm Reel 5 A). Jan 1904. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
A patent claiming this was tested and found worthless. In German.

PB L 27938. JEHL. Preparation of several pyridin dyes. (I. G. Farbenindustrie. Journal of Central laboratory for Dyestuffs). (Frames 6812-6815 of FIAT Microfilm Reel 5 A). Apr 1904. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document contains a short description concerning the formation of pyridin dyes from Bromocyan, an amino compound, and pyridin in a solvent serving as diluting agent. The following amino compounds are mentioned as starting substances: Aniline, acetyl p-phenylendiamine, β-naphthylamine, sulfanilic acid. In German.

PB L 27939. FUSSENEGGER. Pigment Bordeaux N, Höchst. (I. G. Farbenindustrie. Journal of Central laboratory for Dyestuffs). (Frames 6816-6829 of FIAT Microfilm Reel 5 A). May 1904. 7 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document is a report on the analyses of the above dye which is said to have been produced in the same way as "Pigmentrot Höchst", that is by coupling diazotised α-naphthylamine in presence of Turkey red oil with a mixture of β naphthol and 2,7 β-naphthol sulfonic acid. In German.

PB L 27940. FUSSENEGGER. "Lackrot No. 4644". (I. G. Farbenindustrie. Journal of Central laboratory for Dyestuffs). (Frames 6830-6836 of FIAT Microfilm Reel 5 A). May 1904. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The analysis of the sample showed that the essential parts were o-phenetidine-o-sulfonic acid and β-naphthol. In German.

PB L 27941. FUSSENEGGER. Acid alizarinblack SN and SNT, Höchst. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6837-6844 of FIAT Microfilm Reel 5 A). May 1904. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Analysis showed that SN is a mixed primary azodye obtained by tetrazotizing o-o-diamidophenol-p-sulfonic acid and subsequent combination with Schäffer's acid and β-naphthol. SNT contains several other dyes in addition to the primary azodye mentioned under SN. In German.

PB L 27942. HAECKEL. Sulfur containing azo dyes. Verification of French patent No. 337329 dated Nov. 5, 1903 assigned to the Ciba Comp. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6845-6852 of FIAT Microfilm Reel 5 A). May 1904. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The verification of this patent did not lead to new products of any value. In German.

PB L 27943. JULIUS and JEHL. Condensation of o- and m-toluene sulfonic acid with hydrol. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6853-6857 of FIAT Microfilm Reel 5 A). Jun 1904. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
No dyes with good properties could be produced by this method. In German.

PB L 27944. JULIUS and MÜNCH, E. Dihydroxybenzidine benzylether, dihydroxy benzidine sulfonic acid, and 2,2'-dihydroxyazobenzene. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6858-6870 of FIAT Microfilm Reel 5 A). Jun 1904. 7 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Preparation, dyeing - and other properties, of the above compounds are described. In German.

PB L 27945. FUSSENEGGER. "Direktschwarz EW", Elberfeld. (I. G. Farbenindustrie. Journal of Central laboratory for Dyestuffs). (Frames 6871-6879 of FIAT Microfilm Reel 5A). Jun 1904. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Analysis showed that "Direktschwarz EW" is a polyazo dye obtained by the reaction of a certain tetrazo dye with diazobenzene chloride in alkaline solution. This report is written in faded German script.

PB L 27946. JULIUS and HLANGEY. New benzidine derivatives from derivatives of nitrobenzene and amines. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6880-6895 of FIAT Microfilm Reel 5 A). Jun 1904. 8 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Azo compounds, asymetrically substituted condensation products of aromatic amines with nitrosobenzene were produced successfully and could be easily transformed into the corresponding benzidine compounds. Thus the following dyes were finally obtained. 1) "Dichlor Kongorot" from dichlorobenzidine by diazotising and subsequent coupling with the sodium salt of naphthionic acid. 2) "Echtrot-C-Saure" and dichloro methyl benzidine. 3) Dichloro methylbenzidine and naphthionic acid. 4) Dichloro methylbenzidine and "Echtrot-C-Saure." However, the technical production of these new azo dyes was not worthwhile, considering the high production cost and the qualities of the dyes. In German.

PB L 27947. MEYER, HANS. Anthracyanin, Bayer. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6896-6910 of FIAT Microfilm Reel 5 A). Jun 1904. 12 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Anthracyanin Bl is a blue-green powder, the brands 1) L and FL are deep bordeaux red powders which dissolve in water with blue color. Their dyeing properties are compared with other dyes. No conclusion is reached as the question of production costs was not yet solved. One-half of the document is unreadable being completely faded. In German.

PB L 27948. JULIUS and MAIER, J. Rhodamine from dimethyldichlorofluoran and diethylamine. (I. G. Farben-

industrie. Journal of Central Laboratory for Dyestuffs). (Frames 6911-6924 of FIAT Microfilm Reel 5 A). Jun 1944. 8 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Rhodamine was prepared in different ways and the products compared. Reference is made to the German Patent Application B 35840 / 12 of Nov. 27, 1903, in which tetraethylhomorhodamine was obtained. According to this document diethylhomorhodamine is obtained with some impurities. This so called "Rhodamine I" is rather insoluble and not a fast dye. The ethyl ester of "Rhodamine I," "Rhodamine II" has qualities like "Rhodamine 6 G." The high cost of the starting material, pure diethylamin, accounts for high production costs. In German.

PB L 27949. JULIUS and FESSENEGGER. Rose-pink-base, paratolchrome yellow - Höchst. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6925-6930 of FIAT Microfilm 5 A). Jun 1944. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Rose-pink-base was proved to consist of o-anisidin. Paratolchrome upon analysis appeared to be composed of o-toluidine and methylphenylpyrazolon. In German.

PB L 27950. FUSSENEGGER. Helio orange GL and RL. (I. G. Farbenindustrie Journal of Central Laboratory for Dyestuffs). (Frames 6931-6937 of FIAT Microfilm Reel 5 A). Jun 1944. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
An analysis of the above dyes disclosed that o-nitraniline-p-sulfonic acid + R salt combine to form helio orange GL and a combination of p-chloroaniline-m-sulfonic acid + R salt is present in helio orange RL. In German.

PB L 27951. JULIUS. Dianisidine disulfonic acid + 2 β-naphthol. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6938-6939 of FIAT Microfilm Reel 5 A). Jul 1944. 1 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
An analysis of the above combination revealed a bordeaux lacquer dye with blue hue. Technical production seemed impossible because of the high cost of dianisidine. In German.

PB L 27952. JULIUS and MÜNCH, E. Yellow lacquer dyes from nitro-m-phenylene diamine sulfonic acid. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6940-6945 of FIAT Microfilm Reel 5 A). Jul 1944. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Patent problems regarding this dye are discussed. In addition a calculation of the production cost of the dye is presented. This application was made for the protection of future patent applications. In German.

PB L 27953. FUSSENEGGER. Pigment purple Höchst. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6946-6950 of FIAT Microfilm Reel 5 A). Jul 1944. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
An analysis of the above dye proved it to be a combination of o-anisidine + β-naphthol. The dye is not patented and has been considered practically worthless because of sublimation. In German.

PB L 27954. FUSSENEGGER. Green chrome dyes from o-hydroxy diazo compounds and anthrol. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6951-6956 of FIAT Microfilm Reel 5 A). Jul 1944. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Of the two anthrol combination products (of o-amido phenol sulfonic acid and of o-nitro-o-amido phenol-p-sulfonic acid) submitted for analysis, the former was pronounced worthless. The latter proved superior in several respects to "diamant green B- and SS Bayer", its disadvantage being sensitivity to copper. Calculation of cost is added. In German.

PB L 27955. LLOYD. Sulfur dyes derived from dinitro phenol. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6957-6961 of FIAT Microfilm Reel 5 A). Jul 1944. 3 f. Price: Microfilm-$1.00. Enlargement Print-$1.50
In checking the English patent application 178053 (by Meyenberg and The Clayton Co.) it was confirmed that the dye yielded an excellent black similar to the "Berliner" sulfur black. Due to the fact that ample sulphur is formed as an intermediate in this process, contesting of the English patent application because of collision of the processes may be considered. In German.

PB L 27956. FUSSENEGGER. Diamant green SS, Elberfeld. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6962-6970 of FIAT Microfilm Reel 5 A). Jul 1944. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
A chemical analysis of the above dye disclosed that one was dealing with a primary diazo dye, consisting of amido naphthol disulfonic acid H + 1 mol. of p-dichloro aniline and 1 mol. of α-naphthyl amine. A calculation of the cost of production of the dye is included. In German.

PB L 27957. FUSSENEGGER. Checking of the American Patent 763756. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6971-6972 of FIAT Microfilm Reel 5 A). Jul 1944. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
In this American patent it was claimed that a condensation product suitable for preparing yellow lacquer dyes was obtained by the reaction of an aqueous solution of formaldehyde with an aqueous solution of nitrotoluidine hydrochloride. Re- checking of the process confirmed the claim. In German.

PB L 27958. JULIUS. Lacquer dye obtained from β-amido anthraquinone sulfonic acid. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6973-6977 of FIAT Microfilm Reel 5 A). Jul 1944. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is a calculation of the production cost of the above dye. In German.

PB L 27959. FUSSENEGGER. Lacquer red 5944, Dahl. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6978-6983 of FIAT Microfilm Reel 5 A). Jul 1944. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
An analysis of this dye revealed that it is the combination of pp-diamino diphenyl methane plus 2 mol. of β-naphthol disulfonic acid H, as described in a patent application. In German.

PB L 27960. JULIUS and MÜNCH, E. Fast garnet base "Öhler." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 6984-7001 of FIAT Microfilm Reel 5 A). Aug 1944. 9 f. Price: Microfilm-$1.00. Enlargement Print-$1.50
This dye was sent in for analysis which proved it to be a mixture of p- and m-toluidine-azo-m-toluidine. Difficulties of analysis are emphasized. Instructions for use of the dye are attached. In German.

PB L 27961. BLANGEY. Tetramethylbenzidine and its derivatives. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7002-7012 of FIAT Microfilm Reel 5 A). Sep 1904. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
A dye, for which the patent had expired, was tested but found not suitable as it was not fast to washing. Most of this is in German script and of poor legibility.

PB L 27962. FUSSENEGGER. "Pigmentchlorine GG", pigment red G, pigment purple A, pigment orange R, "paratol chlorine." (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7018-7033 of FIAT Microfilm Reel 5 A). Sep 1904. 11 f. Price: Microfilm-$1.00- Enlargement Print-$1.50
A number of dyes are described. They were analyzed. It is difficult to determine the result of these analyses as the report, in German script, is almost illegible.

PB L 27963. SCHRAUBE and SCHLEICHER. Para-nitraniline from formanilide. 2nd report. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7034-7075 of FIAT Microfilm Reel 5 A). Oct 1904. 24 f. Price: Microfilm-$1.00 - Enlargement Print-$2.50
The method is described in great detail, in German script. Literature is given for the reaction of carbon monoxide with oxygen-nitrogen compounds, from 1871 onwards. Added is a cost calculation for o-nitraniline, of 1909.

PB L 27964. FUSSENEGGER and HAECKEL. "Paratol orange." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7076-7078 of FIAT Microfilm Reel 5 A). Oct 1904. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This substance which had been received from New York proved to be composed mainly of 3, nitro o-toluidine and β-naphthol. It was claimed that a U. S. patent of the firm Metz & Co. had been violated. In German.

PB L 27965. FUSSENEGGER. "Aceto purpurine 8 B," Berlin. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7079-7984 of FIAT Microfilm Reel 5 A). Oct 1904. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This dye was found to be a combination of beta-naphthylamine-3,6 disulfonic acid with o-o-dichlorobenzidine. In German.

PB L 27966. FUSSENEGGER. Method of preparing lacquer dyes fast to light. (I. G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7085-7088 of FIAT Microfilm Reel 5 A) Oct 1904. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This was the title of a competing firm's patent application. Re-testing of the method described did not confirm the claims made therein. The dye examined consisted of a combination of β-naphthylamine 3,6-disulfonic acid with R-salt. Most of this is in German script and not very legible.

PB L 27967. BRAREN. Analyses of "sulfur black T extra" Berlin and of preparation of dinitrophenol black from the plant. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7089-7092 of FIAT Microfilm Reel 5 A) Oct 1904. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The method used is described. A clear result was not obtained in 1900. This is in faded German script.

PB L 27968. HAECKEL. Azo dyes from the reduction products of p- or m-nitroanilido-alpha-naphthaquinone. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7093-7095 of FIAT Microfilm Reel 5 A) Nov 1941. 2 f. Price: Microfilm-$1.00 Enlargement Print-1.50
It is stated that fairly good dyes are obtained. In German.

PB L 27969. HAECKEL. Resorcinol-alpha-naphthylamine. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7096-7101 of FIAT Microfilm Reel 5 A) Nov 1904. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The preparation of this substance is described. Its application is discussed. An explanation of the description "pyro" and "meta" in names of salts is added. In German.

PB L 27970. JULIUS and BLANGEY. Condensation of cinnamic aldehyde with anthraquinone derivatives. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7102-7110 of FIAT Microfilm Reel 5 A) Nov 1904. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
According to a previous patent application 3-amino-anthraquinone or its derivatives had been condensated with glycerine and sulfuric acid to form a new ring system probably of the quinoline series, which had produced vat dyes similar to indanthren. According to this patent application condensation of cinnamic aldehyde with 3-amino anthraquinone is tried in different ways. No practical application for this product was found at this time. A part of this document is rather faded. In German.

PB L 27971. JULIUS and GUMLICH. Retesting of German Patent Application C 12156 IV/120. Process for production of monoacetyl- 2,6- diamino-4-nitrophenol. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7111-7113 of FIAT Microfilm Reel 5 A) Nov 1904. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
When the above patent was checked it was found that monoacetyl-2,6-diamino-4-nitro phenol obtained by acetylizing picric acid with subsequent reduction of the nitro groups, when used as starting material for azo chromo dyes did not present any progress as compared with the dye produced previously from 2-amino-4-nitro phenol. In German.

PB L 27972. MAIER. Use of monochloro resorcinol as azo component. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7114-7119 of FIAT Microfilm Reel 5 A) Nov 1904. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Resorcinol was chlorinated by means of sulfonyl chloride to form monochloro resorcinol. This was combined with 2-amino-phenol-4-sulfonic acid as well as with 2-amino-3-nitro phenol-4-sulfonic acid. However the resulting dyes did not prove to be better than those produced from resorcinol. This document is written in German script.

PB L 27973. JULIUS and BLANGEY. Dyes from thio-resorcinol. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7120-7126 of FIAT Microfilm Reel 5 A) Nov 1904. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
It was tried without success to produce dyes from thioresorcinol. Resorcinol was replaced by its thio-derivative in sulfur-dyes - in its combinations with o-hydroxy diazo compounds and in its condensation products with phthalic anhydride. This document contains detailed descriptions of numerous experiments. In German.

PB L 27974. HAAS. Comparison of the black "sulfur dye DNPB Badische" from 1,2 dinitro-4-phenol with other

similar commercial products. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs). (Frames 7127-7134 of FIAT Microfilm Reel 5 A) Nov 1904. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document contains a detailed comparison of black sulfur dye "DNP8 Badische" with several other black dyes with different trade names. The purpose of this document was to collect material for preparation of a patent suit against several firms. The greater part is written in German script.

PB L 27975. HAECKEL. Re-testing of German patent application K 25844 IV/22a: Process for production of a mordant mono azo dye. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7135-7137 of FIAT Microfilm Reel 5 A) Price: Microfilm-$1.00 Enlargement Print-$1.50
The dye of the application by Kalle, Bieberich consisting of 2-amino-4-chloro phenol-5-sulfonic acid and β-naphthol-was tested against the dye of Höchst consisting of 2-amino-4-chloro-6-sulfonic acid and β-naphthol. It was stated that there was no difference worth mentioning. In German.

PB L 27976. JULIUS and FUSSENEGGER. Production of lacquer colors fast to light. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7138-7142 of FIAT Microfilm Reel 5 A) Nov 1904. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The applicants had affirmed that mono azo dyes from aniline-o-sulfonic acid and its derivatives combined with naphtolsulfonic acids produce dyes extremely fast to light. Re-testing proved that previous applications of the same firm concerning "Heliorange" contained dyes of much higher qualities than a great number of dyes for which new applications were made. A patent could therefore not be granted. A detailed description in German script is added.

PB L 27977. BLANKEY. Preparation of a tetrazophenol-sulfonic acid. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7143-7148 of FIAT Microfilm Reel 5 A) Nov 1904. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
According the patent application F 17910 IV/22g m-phenylen-diamine disulfonic acid of the patent 79834 can be tetrazotized to form tetrazophenolsulfonic acid more readily, giving a larger yield by using an excess of nitrite. This tetrazo compound was coupled with β-naphthol. The azo compound with the theoretical amount of nitrite produced the same dye as that produced with an excess of nitrite. A detailed description is added. In German.

PB L 27978. FUSSENEGGER. Lacquer dyes from β-amido-1-naphthylmethane sulfonic acid. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7149-7152 of FIAT Microfilm Reel 5 A) Nov 1904. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Dyes from the above acid of which no structural formulas are given had already been the object of two German and one French patent as well as an American Patent of December 23, 1901. The description is given in German.

PB L 27979. JULIUS and FUSSENEGGER. Perchromin B, Berlin. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7153-7162 of FIAT Microfilm Reel 5 A) Dec 1904. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document gives information concerning the qualitative analysis of a leather dye. It contains considerable amounts of inorganic components such as ammonia, sulfates, chromates, chlorides. The organic component was determined as a di-aminodiphenylamine derivative. This dye was confirmed to be new and efficient. In German.

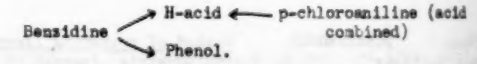
PB L 27980. HAECKEL. Re-testing of a monoazo mordant dye G.P.a. K 24903 IV/22a, Kalle & Co. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7163-7165 of FIAT Microfilm Reel 5 A) Dec 1904. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This very short report covers the re-testing of the German patent application No. K 24903 IV/22a relating to the preparation of a monoazo mordant dye from 2-amino-6-nitro cresol 3-sulfonic acid and β-naphthol. This dye is compared to a similar one from 2-amino 5-nitro phenol-4-sulfonic acid and β-naphthol and found to have superior dyeing qualities. In German.

PB L 27981. FUSSENEGGER. Lacquer Red A 101, Berlin. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7166-7167 of FIAT Microfilm Reel 5 A) Jan 1905. 1 f. Price: Microfilm-$1.00 - Enlargement Prints-$1.50
This dye was found to be the combination of α-naphthylamine-3,8-disulfonic acid and β-naphthol and is essentially identical with the product sold by Elberfelder Farbenfabriken under the trade name Heliopurpurin 4 BL.

PB L 27982. JULIUS and GUMLICH. Production of chloranil. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7168-7173 of FIAT Microfilm Reel 5 A) Jan 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This report contains directions for the production of chloranil from phenol by direct chlorination with chlorine and subsequent treatment of the resulting 2,4,6-trichloro-phenol with a nitric acid hydrochloric acid mixture. In German.

PB L 27983. JULIUS. Blue sulfur dyes from quinone and its halogen derivatives, and thiosulfonic acids of the alkyl-p-phenylen-diamines. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7174-7185 of FIAT Microfilm Reel 5 A) Jan 1905. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This report contains the description of the synthesis of blue sulfur dyes from quinone and its halogen substituted derivatives with thiosulfonic acids of alkyl-p-phenylene-diamines. Discussions on the constitution of the above dyes of which the production was still in an experimental stage conclude this document. The production costs were still too high to make large scale production worth while. In German.

PB L 27984. FUSSENEGGER. Diamond Green, Cl. Cassela. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7186-7196 of FIAT Microfilm Reel 5 A) Jan 1905. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The analysis of this dyestuff showed that it is a polyazo dye of the following constitution:



This dye could not be produced because it was protected by a Geigy Patent No. 116521 of March 27, 1900.
In German.

PB L 27985. BEYER. Monochlyl amino hydroxybenzoyl benzoic acid. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7197-7199 of FIAT Microfilm Reel 5 A) Jan 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Experiments for the preparation of monoethyl amino hydroxybenzoyl benzoic acid are reported, which were not yet terminated. This document is in German script.

PB L 27986. ALBRECHT. Preparation of mordant azo dyes(patent application O 4543 IV/22a Oehler). (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7200-7204 of FIAT Microfilm Reel 5 A) Feb 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50

The new azo dye from amino nitro phenol-sulfonic acid and o-cresotic acid proved to couple faster and more completely than a dye produced from the same sulfonic acid and salicylic acid. Both types produce brown-yellow colors on wool. In German.

PB L 27987. FUSSENEGGER. Permanent red 4 B and 6 B, Berlin. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7205-7207 of FIAT Microfilm Reel 5 A) Feb 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
It is stated that the trade mark 4 B represents a dye of the following constitution: p-toluidine-2-sulfonic acid with β-naphthol, and red 6 B, a dye from p-phenetidine -2-sulfonic acid with β-naphthol. A patent for red 4 B had been granted while red 6 B was free. The formulas in this document are faded and not quite legible. In German.

PB L 27988. JULIUS and ALBRECHT. Chlorinated hydroxy and aminophthalic acids. (I.G. Farbenindustrie. Journal of Central Laboratory for dyestuffs) (Frames 7208-7217 of FIAT Microfilm Reel 5 A) Feb 1905. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Potassium hydroxide reacts at a lower temperature than sodium hydroxide on tetrachlorophtalic acid. The product of the latter reaction contains less impurities. A separation of the produced 2 isomeric hydroxy acids was tried. An outlet for the practical application of the product had to be found. Discussions on constitution and properties of hydroxyphthalic acids are included in this document. In German.

PB L 27989. JULIUS and ALBRECHT. On the formation of sulfur black. (A,B and C containing) from diamino-phenol. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7218-7223 of FIAT Microfilm Reel 5 A) Feb 1905. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Diaminophenol when boiled with an aqueous solution of very high polysulfides yields an A,B and C containing black sulfur. A chart covering a large number of experiments is added. In German.

PB L 27990. FUSSENEGGER. "Eriochromschwarzblau B." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7224-7230 of FIAT Microfilm Reel 5 A) Mar 1905. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Analysis showed that this dye is the combination of 1,2-amidonaphthol-4-sulfonic acid and β-naphthol. In German.

PB L 27992. JULIUS and FUSSENEGGER. "Ponceau HP." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7237-7242 of FIAT Microfilm Reel 5 A) Mar 1905. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Analysis showed that the above dye is the combination of o-toluidine and α-naphthol-1,5-sulfonic acid. In German.

PB L 27993. JULIUS. "Heliopurpurin 3 Bl." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7243-7244 of FIAT Microfilm Reel 5 A) Mar 1905. 2 f. Price: Microfilm-$1.00- Enlargement Print-$1.50
The composition of this dye is given in a short handwritten statement which is almost entirely faded. In German.

PB L 27994. JULIUS and FUSSENEGGER. "Orthocerise B." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7245-7255 of FIAT Microfilm Reel 5 A) Mar 1905. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Analysis of a sample of "Orthocerise B" showed that the dye is an o-hydroxy azo compound of p-nitro-o-amino phenol and β-naphthol-3,6-disulfonic acid. In German.

PB L 27995. JULIUS. Fast azo grenade base H. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7256-7258 of FIAT Microfilm Reel 5 A) Mar 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Analysis showed that the above compound consists of p-toluidine and m-toludine azo-m-toluidine. In German.

PB L 27996. HAECKEL. Process for preparation of methyl-naphthol. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7259-7263 of FIAT Microfilm Reel 5 A) Apr 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
1-Methyl-2-naphthol is obtained by reacting 1-methyl-2-naphthol (developed from 2 mol of β-napthol with 1 mol of formaldehyde) with zinc dust in alkaline solution. In German.

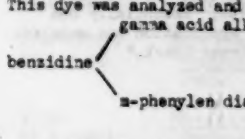
PB L 27997. JULIUS and FUSSENEGGER. Process for preparation of red lacquers fast to light. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7264-7266 of FIAT Microfilm Reel 5 A) Apr 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Verification of an old German patent application confirmed the statement that the combination of monoazo dyes (Obtained from diazotized amido bases) with α-naphthol-4,8-disulfonic acid leads to the above lacquers. In German.

PB L 27998. JULIUS and BLANGEY. "Rhodamin Scharlach G." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7267-7280 of FIAT Microfilm Reel 5 A) Apr 1905. 7 f. Price: Microfilm-$1.00- Enlargement Print-$1.50
This document contains the report on a detailed analysis of the above dye with numerous formulas. In German.

PB L 27999. JULIUS and BLANGEY. Preparation of hydroquinone by alkali melts of p-chlorophenol-o-sulfonic acid or p-dichlorobenzene sulfonic acid. (I.G. Farbenindustrie. (Frames 7281-7289 of FIAT Microfilm Reel 5 A) Apr 1905. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Detailed directions for the preparation are given in this document, which is written in faded German script.

PB L 28009. JULIUS and FUSSENEGGER. "Salicinschwarz U and US, Kalle." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyesstuffs) (Frames 7434-7438 of FIAT Microfilm Reel 5 A) Jul 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Checking of the above dyes disclosed that "Salicinschwarz U" is uniform, while "Salicinschwarz US" is a mixture of different dyes. "U" is the combination of diazotized 1,2-amino naphthol-4-sulfonic acid and β-naphthol. In German.

PB L 28010. FUSSENEGGER. Diamine brown S, Cassella. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7439-7445 of FIAT Microfilm Reel 5 A) Jul 1905. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This dye was analyzed and found to be



In German.

Dyes (contd)

PB L 28011. JULIUS. The commercial vat dyes Eriochrome black A 4938 and Eriochrome black AV 4559. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7446-7450 of FIAT Microfilm Reel 5 A) Jul 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
These dyes were analyzed and declared to be induline sulfonic acid products, identical with "Solid blue RR Geigy." In German.

PB L 28012. JULIUS and FUSSENGGER. Process lacquer B extra, Ahlheim. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7451-7462 of FIAT Microfilm Reel 5 A) Jul 1905. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The analysis of this dye failed. It is stated to consist of several closely related substances which could not be separated, but "R-salt" was present as a component. In German.

PB L 28013. JULIUS and HAECKEL. Phenylthioquinones and dyes from them with dimethyl-p-phenylene diaminethiosulfonic acid. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7463-7468 of FIAT Microfilm Reel 5 A) Jul 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Several new blue dyes were prepared on this basis. Their structural formulae are given. It is stated that the substances obtained have the characteristics of the thiasine dyes, though they do not give the general reactions of sulfur dyes. In German.

PB L 28014. JULIUS and HAECKEL. Amino derivatives of the omega-sulfonic acid of acetanilide, and its monoazo combinations. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7469-7478 of FIAT Microfilm Reel 5 A) Jul 1905. 7 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
It is described how the acid was prepared. The new substances prepared with it are described. Results of their tests are indicated. It is stated that the compounds under investigation had poor dyeing qualities. In German.

PB L 28015. JULIUS and FUSSENEGGER. "Wool black DG," Kalle. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7479-7486 of FIAT Microfilm Reel 5 A) Jul 1905. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
An analysis of this dye was attempted. It was found to be a mixture of three components, two of which were identified with commercial products while the third one could not be analyzed. In German.

PB L 28016. JULIUS and MUNCH, E. "Choranil blue 2a." (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7487-7490 of FIAT Microfilm 5 A) Jul 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Instructions for the preparation of this dye from tetrachloroquinone and dimethyl-p-phenylendiamine thiosulfonic acid are given, also a calculation of the cost. In German.

PB L 28017. BLANGEY. Method for preparation of mordant dyeing o-hydroxy monoazo dyes. Patent application G 20744 (Soc.for Chemical Industry Basel). (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7491-7494 of FIAT Microfilm Reel 5 A) Aug 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-1.50
The claims in the application were tested. However only a part of the tests led to any results. Essentially one component of the dye (on which this application was made) was identified as commercial "palatin chrome black." In German.

PB L 28018. FUSSENEGGER. Leather yellow GS, Ehler. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7495-7502 of FIAT Microfilm Reel 5 A) Aug 1905. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The main component of this dye was found to be disulfonic acid of a diaminophenyl acridine. In German.

PB L 28019. BEYER and HOHSE. Reaction of formaldehyde with amines and oxidation of the condensation products. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7503-7507 of FIAT Microfilm Reel 5 A) Sep 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
A process of this nature had been offered for purchase. The authors tested it and could not confirm the claims made by the inventor. They hold that no useful products can be obtained by this method. In German script.

PB L 28020. JULIUS and ALBRECHT. Monoazo dyes from the two nitro products of p-amino dimethylaniline. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7508-7512 of FIAT Microfilm Reel 5 A) Sep 1940. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Investigations are reported on monoazo dyes as obtained from R-salt by coupling with a few of the two isomeric nitro products of p-amino dimethylaniline in which the amino group in ortho or in meta position to the nitro group was dimethylated. The former compound was known before. The latter has been produced by the authors. It is said to be a good quality dye of blue-black color. In German.

PB L 28021. JULIUS and HAECKEL. Method for the preparation of the asymmetric α-β dinaphthazines. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7513-7516 of FIAT Microfilm Reel 5 A) Sep 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
By the addition of sodium acetate and by the influence of air a substantial improvement of the yield of dinaphthazines is attained over the method as described in German patent application 19782 IV/12p. This document is written faded German script. Legibility is rather poor.

PB L 28022. BERNTHSEN and FUSSENEGGER. Acid anthracene brown V. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7517-7522 of FIAT Microfilm Reel 5 A) Oct 1905. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Investigations proved that p-nitro-o-amino phenol and naphthol-4-sulfonic acid had been used for the formation of the dye. In German.

PB L 28023. GUMLICH. Introduction of amino groups into aromatic polynitro compounds by means of hydroxyl amine in alkaline solution. Re-testing of German patent application. (I.G. Farbenindustrie. Journal of Central Laboratory for Dyestuffs) (Frames 7523-7526 of FIAT Microfilm Reel 5 A) Oct 1905. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document contains a detailed description of an attempt to produce dinitrophenylen diamine and also m-dintrophenol. Retesting shown poor results in both cases. In German.

Plastics and Plasticizers

PB L 70301. I. G. FARBENINDUSTRIE A.G., LUDWIGSHAFEN AND WOLFEN, GERMANY. Patents and research reports on organic chemicals. (FIAT Microfilm Reel B 27, Frames 36464-37485) 1930-1945. 1029 f. Price: Microfilm-$6.00 - Enlargement print-$103.00

Plastics and Plasticizers (contd)

This FIAT microfilm reel consists of items dealing with chemical technology, particularly in the field of plastics. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
36464 PB L 70301	Last frame of a list of patent abstracts, the beginning of which is not available.	
36465-36837 PB L 70301	List of patent abstracts in the field of rayon. 1943. In German.	$37.50
36838-37176 PB L 70301	List of patent abstracts in the field of rayon. 1944. In German.	34.00
37177-37198 PB L 70301	List of patent abstracts in the field of rayon. 1945. In German.	2.50
37199-37214 PB L 70301	Strength tests on rubber at low temperatures. By Valko. 1930. In German.	2.00
37215-37220 PB L 70301	Tests on commercial Buna M. By Teupel. 1942. In German.	1.50
37221-37234 PB L 70301	Experiments for the production of Buna S free from linoleic acid. By Teupel. 1942. In German.	1.50
37235-37237 PB L 70301	Experiments with Buna S. By Teupel. 1942. In German.	1.50
37238-37242 PB L 70301	Preparation of copolymers from butadiene and methyl-methacrylate. By Teupel. 1942. In German.	1.50
37243 PB L 70301	Minutes of a Buna meeting. 1943. In German.	1.50
37244-37249 PB L 70301	Correspondence concerning testing of resin solutions. 1939. In German.	1.50
37250-37253 PB L 70301	A mixture of monodibutyl phosphates as hardening agent. 1939. In German.	1.50
37254-37260 PB L 70301	Testing of resin. 1939. In German.	1.50
37261-37263 PB L 70301	Testing of soft resins as to their use as lacquers. 1938. In German.	1.50
37264-37267 PB L 70301	Testing resins as to their resistance to weathering. 1939. In German.	1.50
37268 PB L 70301	"Luphen" alkyd resins. 1939. In German.	1.50
37269 PB L 70301	"Luphen AT". By Hecht. 1939. In German.	1.50
37270-37274 PB L 70301	Properties and uses of "Luphen AT". 1939. In German.	1.50
37275-37279 PB L 70301	Preliminary treatment of metal surfaces on which "Luphen AT" is applied. By Hecht. 1939. In German.	1.50
37280-37283 PB L 70301	Use of "Luphen AT" instead of phenytal. 1939. In German. Poorly legible in parts.	1.50
37284 PB L 70301	"Luphen AT" as protective lacquer for pieces of metal. n. d. In German. Legibility poor.	1.50
37285-37287 PB L 70301	Testing "Luphen" lacquer for elasticity and adhesiveness. 1939. In German.	1.50
37288-37295 PB L 70301	Solution of synthetic resin as shellac substitute for India-ink. By Krzikalla and Reppe. 1940. In German.	1.50
37296-37299 PB L 70301	Disulfamide formaldehyde resins. By Krzikalla. 1940. In German.	1.50
37300-37302 PB L 70301	Soft resins and xylenol formaldehyde resins. By Hecht and Niemann. 1940. In German.	1.50
37303-37308 PB L 70301	Resin for printing purposes. 1940. In German.	1.50
37309-37312 PB L 70301	Disulfamide formaldehyde resin as shellac substitute for India-ink and sealing wax. 1940. In German.	1.50
37313 PB L 70301	Resin for printing purposes. 1940. In German.	1.50
37314-37315 PB L 70301	Phenol formaldehyde resins. 1940. In German.	1.50
37316 PB L 70301	Resin as polishing agent. 1940. In German.	1.50
37317-37319 PB L 70301	"Luphen AT" analyses. By Hecht, Reppe and Niemann. 1940. In German.	1.50
37320-37325 PB L 70301	Disulfamide formaldehyde resins as water helliogravure colors which are waterproof. 1940. In German.	1.50
37326 PB L 70301	Disulfamide formaldehyde resins as substitute for plasticized "Plastopals". 1940. In German.	1.50
37327-37345 PB L 70301	Resins for the production of oil varnishes. 1940. In German.	2.00
37346-37347 PB L 70301	Important substances for the production of "Luphen" resins. By Hecht and Reppe. 1940. In German.	1.50
37348-37352 PB L 70301	"Luphen" brands resistant to sodium carbonate. 1940. In German.	1.50
37353-37357 PB L 70301	"Luphen H". 1940. In German.	1.50
37358-37362 PB L 70301	Testing resins for their possible use as offset printing colors. 1940. In German.	1.50
37363-37368 PB L 70301	"KA" resins. By Dornheim, Reppe and Krzikalla. 1940. In German.	1.50
37369 PB L 70301	Testing soft resin and resin 60540. 1940. In German.	1.50
37370-37375 PB L 70301	Testing soft resin and anthracene acrylic acid resins. By Dornheim, Krzikalla and Reppe. 1940. In German.	1.50
37376 PB L 70301	Preparation of anthracene acrylic acid resins. 1940. In German.	1.50
37377-37379 PB L 70301	Soft resins AT which are highly viscous. By Hecht and Reppe. 1940. In German.	1.50
37380 PB L 70301	Storage of "Luphen AT". By Jordan. 1940. In German.	1.50
37381-37389 PB L 70301	Testing sulfamide resins. 1940. In German.	1.50

37390-37395 PB L 70301 — Discussion in regard to a new brand of "Luphen". 1940. In German. 1.50

37396-37398 PB L 70301 — A highly condensed synthetic resin. 1940. In German. 1.50

37399 PB L 70301 — Testing resin and soft resin for their possible use for nitro-combination-white lacquers. 1940. In German. 1.50

37400-37409 PB L 70301 — Testing of triglycol. 1940. In German. 1.50

37410-37414 PB L 70301 — Testing various brands of "Luphen AT". 1940. In German. 1.50

37415-37426 PB L 70301 — Testing of "HA" resins. n. d. In German. 1.50

37427-37430 PB L 70301 — A synthetic resin made by Noggerath, Hamburg. By Hecht and Reppe. 1940. In German. 1.50

37431-37434 PB L 70301 — Testing of "Diphen" made by Louis Blumberg, Zwickau. By Hecht and Reppe. 1940. In German. 1.50

37435-37442 PB L 70301 — Possible uses of M-phenol oil instead of xylenol for the production of "Luphen". By Prillwitz and Jordan. n. d. In German. 1.50

37443-37448 PB L 70301 — Testing of resin, soft resin and anthracene acrylic acid resins. 1940. In German. 1.50

37449-37493 PB L 70301 — Report on "Luphen" resins. 1940. In German. 4.50

PB L 70301-S. I. G. FARBENINDUSTRIE A.G., LUDWIGSHAFEN AND WOLFEN, GERMANY. Patents and research reports on organic chemicals. (FIAT Microfilm Reel B 27, Frames 36464-37493, abstract cards) 1930-1945. 54 p. Price: Microfilm-$2.00 - Photostat-$4.00. These are abstracts of the items on Reel B 27 (PB 70301). They were prepared by FIAT abstracters in Germany.

PB L 73437. I.G. FARBENINDUSTRIE A.G., LUDWIGSHAFEN, GERMANY. Reports on the production of organic chemicals. (FIAT Microfilm Reel X 25, Frames 1302-1239) 1940-1945. 238 f. Price: Microfilm-$3.25 - Enlargement print-$24.00 This FIAT microfilm reel consists of 44 items dealing with the preparation of organic products, particularly plastics. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $3.25. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
1002-1010 PB L 73437	Oppanol B. 1940. In German.	$1.50
1011-1013 PB L 73437	Dispersions of plastics free from "Ampho" soap. By Craemer. 1945. In German.	1.50
1014-1017 PB L 73437	Testing of emulsion films in the plant. 1940. In German.	1.50
1018 PB L 73437	Processing of "Polystyrol EF." 1940. In German.	1.50
1019-1021 PB L 73437	Comparative measurements with different viscosimeters. 1940. In German.	1.50
1022-1024 PB L 73437	Oppanol B emulsions (d 472). By Craemer. 1940. In German.	1.50
1025-1030 PB L 73437	Dispersions of plastics in powdery form. By Craemer. 1940. In German.	1.50
1031-1034 PB L 73437	Polychloroprene, further chlorinated. By Craemer. n.d. In German.	1.50
1035-1037 PB L 73437	Compatibility of aryl sulfamides with "Lucrylans." By Craemer. n.d. In German.	1.50
1038-1041 PB L 73437	Heat deformation of "Igelit MP." By Berger. 1940. In German.	1.50
1042-1043 PB L 73437	Gluing of "Lupamid" on leather. n.d. In German.	1.50
1044-1046 PB L 73437	Plasticisers for "Lucrylan 400 D." 1940. In German.	1.50
1047-1056 PB L 73437	Testing different electrolytes for their possible use as precipitants in the production of fibrous leather. By Craemer. 1941. In German.	1.50
1057-1060 PB L 73437	Improvement of the stability of "Igelit" mixtures. 1940. In German.	1.50
1061-1062 PB L 73437	"Lucrylan" dispersion with ethylhexyl vinyl ether. By Craemer. 1940. In German.	1.50
1063-1069 PB L 73437	Isopropyl anthracene. By Craemer. 1940. In German.	1.50
1070-1071 PB L 73437	"Lucrylan 450 D (LJ 450)" free from "Ampho" soap. By Craemer. 1940. In German.	1.50
1072-1075 PB L 73437	Butadiene copolymers in dispersed form. By Craemer. 1940. In German.	1.50
1076-1079 PB L 73437	Testing of castor oil substitutes. By Craemer. 1940. In German.	1.50
1080-1081 PB L 73437	Hydroxyethylation product obtained from a polymeric resin (a product capable of swelling or dissolving in water). By Craemer. 1940. In German.	1.50
1082-1084 PB L 73437	Decahydronaphthene-ester of a condensation product obtained from anthracene and acrylic acid. By Craemer. 1940. In German.	1.50
1085-1089 PB L 73437	"Igelit-Palamoll" mixtures. By Schwarz. 1940. In German.	1.50
1090-1106 PB L 73437	"Igelit PCU" pastes. 1940. In German.	2.00
1107-1110 PB L 73437	Substitute for "Ampho" soap in "Lucrylan 450 D (LJ 450)". By Craemer. 1940. In German.	1.50
1111-1120 PB L 73437	Processing of "Igelit" by the dipping method. 1940. In German.	1.50
1121-1122 PB L 73437	Weathering and photochemical tests of "Polysterol III," of the copolymer 80/20 from styrene-methacrylic methylester, and of "Plexigum M 246." By Beck. 1940. In German.	1.50
1123-1124 PB L 73437	"Naphthalinharz C." 1940. In German.	1.50
1125-1130 PB L 73437	Propane sulfanilamide. By Craemer. 1940. In German.	1.50
1131-1134 PB L 73437	Production of "Igelit" hoses by means of the Bersdorf worm-spraying machine. By Beck. 1940. In German.	1.50

1135-1136 PB L 73437 — Polyacrylmethylamine. By Craemer. 1940. In German. — 1.50

1137-1140 PB L 73437 — Dispersions of plastics in powdery form. By Craemer. n.d. In German. — 1.50

1141-1142 PB L 73437 — Thickening agents for cable insulating oils. n.d. In German. — 1.50

1143-1144 PB L 73437 — Distyrene as plasticizer for polystyrene. By Beck. 1940. In German. — 1.50

1145-1147 PB L 73437 — Dispersions from glazing-varnish. By Kollek. 1940. In German. — 1.50

1148-1153 PB L 73437 — Dispersions from glazing-varnish. By Craemer. 1940. In German. — 1.50

1154-1160 PB L 73437 — Production of coarse-grained materials for injection molding. 1940. In German. — 1.50

1161-1162 PB L 73437 — (These frames are damaged.)

1163-1164 PB L 73437 — The possibility of spraying "Igelit" mixtures which contain "Palamoll." By Beck. 1940. In German. — 1.50

1165-1173 PB L 73437 — Experiments for improving the adhesiveness of "Lucrylan II" films on textile fabrics. By Beck. 1940. In German. — 1.50

1174-1179 PB L 73437 — Behavior of "Bindemittel Li 160" under varying conditions. By Schwarz. 1940. In German. — 1.50

1180-1212 PB L 73437 — Further studies on polyamides. By Mattauch. 1940. In German. — 3.50

1213-1217 PB L 73437 — Oppanol C and E. By Craemer. 1940. In German. — 1.50

1218-1223 PB L 73437 — (These frames are damaged.)

1224-1231 PB L 73437 — Dielectric strength of plasticized "Igelit" materials. 1940. In German. — 1.50

1232-1234A PB L 73437 — List of plasticizers. 1941. In German. — 1.50

1235-1239 PB L 73437 — Oppanol B emulsions with addition of styrene. 1940. In German. — 1.50

PB L 73437-S. I.G. FARBENINDUSTRIE A.G., LUDWIGSHAFEN, GERMANY. Reports on the production of organic chemicals. (FIAT Microfilm Reel X-25, Frames 1002-1239, abstract cards) 1940-1945. 56 p. Price: Microfilm-$2.00 - Photostat-$4.00
These are abstracts of the items on reel X-25 (PB 73437). They were prepared by FIAT abstracters in Germany.

PB L 30879. JAYNES, C. B. Test on Dow Chemical Company's copolymer-styrene compound. (AAF Materiel Command Memo Rept EXP-M-54-656-614) Nov 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

* PB L 80378. TOPP, and others. Thermo-plastic and thermo-setting resins. Interrogation of Dr. Eisenmann (Dynamit A. G., Troisdorf). (BIOS Final Rept 1191, Item 22; Interrogation Rept 425). Jun-Jul 1946. 29 p.
Price: Microfilm-$1.00 - Photostat-$2.00
Fields of work in which Dynamit A. G. are known to have been actively interested were selected for this interrogation, the report is divided into two parts as follows: Part I - 1. Flexible phenol Hormaldehyde resins, wherein the search had been largely unsuccessful; 2. Cold setting phenolic glues, T. 77 resin was the prefered product of this type. Formula and process are given; 3. Adhesive varnish P. 1091; 4. Phenolic resins, covering such information as raw materials, catechol resins, catalysts and Novolaks; 5. Urea laminating resin; 6. Certain miscellaneous substances dealing with resins. Part II of the report contains details of the composition and method of manufacture of a cellulose nitrate composition called Trolit F. Appendices and diagrams are attached.

Miscellaneous Chemicals

PB L 74341. DEUTSCHE GOLD- UND SILBERSCHEIDEANSTALT, FRANKFURT AU MAIN, GERMANY. Chemical reports and books. (FIAT Microfilm Reel G 295, Frames 3005-3459) 1942-1945. 455 f. Price: Microfilm-$6.50 - Enlargement print-$45.50.
This FIAT microfilm reel consists of 12 reports and books in the field of organic and inorganic chemistry. The material was obviously seized on the premises of the above company. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
3005-3043 PB L 74341	Experiments for leaching out arsenic from commercial enamel on steel sheets. By Stuckert and Prdschek. n. d. In German.	$ 4.00
3044-3052 PB L 74341	Preparation of 2-hydroxy-1, 6-hexamethylene diamine. By Wagner. 1945. In German.	1.50
3053-3064 PB L 74341	Studies in the field of plasticizers. By Schuls. 1945. In German.	1.50
3065-3073 PB L 74341	Preparation of a new gelatinising agent for Igelit by chlorination of diethylidene pentaerythritol. By Wagner. 1945. In German.	1.50
3074-3083 PB L 74341	"Bifunctional compounds". By Schuls. 1945. In German.	1.50
3084-3093 PB L 74341	Recovery of fatty acids and phenols from preliminary wash liquor fractions. By Schwarze. 1945. In German.	1.50
3094-3104 PB L 74341	Preparation of cyanuric chloride. By Huemer. 1945. In German.	1.50
3105-3129 PB L 74341	Report on experiments for improving products by filtration of molten metals and alloys. 1944. In German.	2.50
3130-3271 PB L 74341	Manual entitled "Processing of natural rubber, synthetic rubber, and soft-rubber-like plastics". By Kluckow. 1942. In German.	14.50
3272-3459 PB L 74341	"Textbook on surface protection and surface improvement by means of lacquers and pickling solutions, with special regard to the raw materials, production methods, and fields of application of the lacquers." By Zimmer. 1942. In German.	19.00

PB L 52015. GERMANY. REICHSAMT FÜR WIRTSCHAFTSAUSBAU. Chemische Berichte, Jun 1942. Jun 1942. 70 p.
Price: Microfilm-$2.00 - Photostat-$5.00
Abstracts of the papers follow. The papers will be available

in photostat form. Please include PB and page numbers when ordering individual items. In German.

Pages	Title	Price
409-423 PB L 52016	EIGENBERGER, E. (Deutsche Technische Hochschule, Prague). Ketolic oxyns. I. Characterization of linseed oil oxyns by the aluminum number. In German.	$1.00

The Al no. is defined as the parts of Al by wt. combining with 100 parts of sample. The reagent was a soln. of Al isobutylate in C_6H_6. Al turnings, 20 g., were added to 1.4 g. $HgCl_2$ in 110 g. anhyd. Me_2CHCH_2OH and 2 cc. of BuOH, 2 N with respect to HCl. The reaction mixt. was dild. with 100 cc. C_6H_6, centrifuged, distd. to dryness in vacuo, and dissolved in pure C_6H_6, and the concn. of Al was detd. and adjusted to about 0.005 g.Al/cc. In the detn. a dry 0.1-0.7 g. sample dissolved in 10-50 cc. C_6H_6 was titrated with the Al isobutylate soln. After each addn., a strip of filter paper about 10 x 90 x 0.2-0.4 mm. previously stored under a bell jar at 100% relative humidity was inserted. Excess Al isobutylate or colloidal basic salts which existed at the endpoint were coagulated, did not climb as high on the paper as the solvent, and gave a dark-red color on the paper with a cold soln. of alizarin in C_6H_6. Reactive ketonic groups in carboxylic acids could be recognized when the Al no. exceeded the Al equiv. of the acid no. On direct titration without interruption, the endpoint with monocarboxylic acids such as stearic acid occurred at a ratio of 1 g. mol. of the acid to 1 g. atom of Al. The Al no. and the corresponding g. mols. of compd. per g. atom of Al of series of compds, were as follows, resp.: HCO_2H, 0, -; AcOH, 16.2,-; $EtCO_2H$,33,-; $PrCO_2H$, 32, -; $BuCO_2H$, 27,-; $C_6H_{13}CO_2H$, 24.5, -; $C_{17}H_{35}CO_2H$, 10.7, -; azelaic acid, 0, -; $AcCH_2Ac$, 13.8, 2; $AcCH_2Bz$, 8.3, 2; $AcCH_2CO_2Et$, 12.6, 1.6; $BzCH_2CO_2Et$, 7.0, 2.0; $O:C(CH_2CO_2Et)_2$, 11.9, 1; o-$HOC_6H_4CO_2Me$, 8.6, 2; m-$HOC_6H_4CO_2Me$, 1.6, 11; p-$HOC_6H_4CO_2Me$, 1.0,18; PhOH, 5.5, 5; p-$C_6H_4(OH)_2$, 3.5, 7; butyroin, 12.3, 1.9; laurcin, 6.8, 1.1; olecin, 6.9, 1.5; BzCHOHPh, 20.3, 0.6; furoin, 3.6, 2.5; $(CHOHCO_2Et)_2$, 13.5, 1; $MeCHOHCH_2CHO$, 1.6, 19; Me_2COHCH_2Ac, 2.5, 9; $MeCOCOMe$, 0, -; $AcCO_2Et$, 2.0, 12; $AcCH_2CH_2Ac$, 2.5, 10; Me_2CO, 0,-; $MeCOEt$, 0, -; $Me_2C:CHAc$, 2, 13; $Me_2C:CHCOCH:CMe_2$, 1.1, 17; PhCOMe, 3.4, 6.6; Ph_2CO, 0, -; PrCHO, 0, -; MeCH: CHCHO, 0, -; $MeCH:CHCO_2Et$, 0, -. The Al no. of HCO_2H, AcOH, $EtCO_2H$, and azelaic acid was low because the Al salts were difficultly sol. in C_6H_6. Most of the compds. which reacted with Al in a ratio of about 3 g. mols. to 1 g. atom were comparatively strongly acidic, e.g. 1,3-diketones and 1,3-ketonic esters, which owe their acid character to the enol form. 1,2-Ketols and hydroxy esters also had high Al nos. Oleic acid and oleyl alc. changed in Al no. and acid no., resp., on exposure to oxidation. Oleic acid, blown 5 hrs. at 20°, 13.5, -; blown 5 hrs. at 30° exposed to ultraviolet light, 14.5, -; exposed 1 yr., 16.0, -; blown 5 hrs. at 200°, with 0.02% Mn, 13.6, 185; blown 5 hrs. at 200°, with 10% Al borings, 17.8, 174. Oleyl alc., 1.5, 0.5; exposed 4 days, 2, 0.5; 8 days, 3.5, 0.5; blown 10 hrs. at 100°, 2.4, 1.6; blown 10 hrs. with 0.2% Mn, 3.8, 26.5. The autoxidation of linseed oil under various conditions was followed by changes in Al no., acid no., peroxide no. (Marks and Morrell, C.A. 23, 5439 (1929)), viscosity, O absorption, changes in wt. of films, and loss of volatile acids. Conditions were autoxidation at 20°, at 38% relative humidity, exposure to ultraviolet light, and blowing with air at 70° and 85°. The results are presented in 9 graphs. A high Al no. showed increase in ketolic oxyns which were the precursors of subsequent oxidative degradation. Al isobutylate, added from time to time to linseed oil, during the course of blowing at 70°, stabilized the ketolic oxyns as Al complexes and caused increase in Al no. with time to be nearly linear. A soln. of such an "aluminated" oil (contg. 3.3% Al) gave a film which became hard, elastic, and non-adhesive and decreased in water absorption to 0%, compared with 6.8% for the original linseed oil.--From Chemical Abstracts.

424-458 PB L 52015	FURKERT, H. (Sächsische Zellwolle A. G., Plauen). New ways of conserving raw materials in connection with the purification of waste gases and liquors in the production of cellulose wool. In German.	3.00

This paper deals with methods of recovering carbon disulfide from the fibers; utilizing the hydrogen sulfide of the waste gases by processing it to sulfuric acid; of recovering the caustic soda of the waste liquor developing in dialysis, and to save sulfuric acid and obtain sodium sulfate, which are usually lost in the precipitation of the fibers.

459-476 PB L 52015	WAGNER, H. and BÖHUISCH, A. W. (Forschungsinstitut für Farbentechnik, Stuttgart). The influence of the physico-chemical properties of pigments on anticorrosion films. In German.	2.00

The following factors were studied: Arrangement of the pigments in the film, properties of the film (such as porosity, contact between pigment and base layer, and the effect of water), introduction of fillers into the pigments, preparation of "kern pigmenten," protection of the pigments against swelling by an organic covering layer, and improvement of the film or of the whole structure.

PB L 52022. GERMANY. REICHSAMT FÜR WIRTSCHAFTSAUSBAU. Chemische Berichte Jan 1943. Meeting of the cooperative group supplying the glass industry with alkali, May 3, 1942. Jan 1943. 49 p. Price: Microfilm-$1.00 - Photostat-$4.00

Abstracts of the papers follow. The papers will be available in photostat form. Please include PB and page numbers when ordering individual items. In German.

Pages	Title	Price
4	Instructions. In German.	$1.00

PB L 52022 This page contains administrative rules and instructions for the meetings of the cooperative groups to facilitate research for the "four year plan." These meetings were sponsored by the "Reichsamt für Wirtschaftsausbau Berlin" (Reich office for economic development).

5-6 PB L 52022 List of participants. In German. 1.00
The names of the representatives of various governmental agencies, industrial enterprises, universities, etc. who were present at the meetings are listed.

7-12 PB L 52022 RÖHL, H. (Wirtschaftsgruppe Glasindustrie, Berlin). Alkali containing materials. In German. 1.00
This is a statistical review on raw materials (natural and chemical) necessary for the German glass industry, on the consumption of alkali for the production of glass based on Na_2O, and on prices of the materials. The figures given cover the years 1936, 1939, and the first quarter of 1943.

13-19 PB L 52022 PIPER, E. (Röchlingsche Eisen-U. Stahlwerke, Volklingen). Collection and working up of soda slags. In German. 1.00
Wartime scarcity of certain vital minor constituents in steel making, especially for desulfurizing, brought about the use of Na_2CO_3, in Germany for this purpose. In Fe smelting considerable losses result owing to effervescence if there is not thorough mixing of the soda and melt. Fused soda is best, and better results are obtained in desulfurizing if the soda is added during the pouring process. The desulfurization is attributable to the formation of Na_2S, which is insol. in the molten Fe and which is stable at temps. over 1400°. A large part of the alkali melt may be lost for desulfurization through minor reactions with the brick linings or the residual SiO_2 in the pig Fe. As the soda slag has a relatively low d. and increases in fluidity with increased S content, there is difficulty in sepn. from the melt. There may be considerable loss of Fe or contamination of the Fe with slag. To eliminate these difficulties, a device known as a "coffee-pot" was introduced. First, the soda was melted down in a rotary kiln, carried by a special conveyor to the blast furnace, and added to the pig Fe during pouring. The pig Fe with the soda slag floating thereon was poured through a siphon, the "coffee-pot," a partitioned vessel with a tap for pig Fe and a pour-off for the lighter slag. Both spouts were so arranged that a slag cover of about 400 mm forms on the pig Fe. The deslagged Fe flows through the discharge opening while the slag flows from the higher opening. Owing to a washing effect in the Fe passing through the slag cover, there is a further lowering of the S content. A similar device, the "foxpan," was also used. Here the soda slag can be used repeatedly for desulfurizing. An important factor in the use of soda is the available Mn content. With an initial S content of 0.1% the S is lowered to about 0.03% with an addition of 5 kg. of soda per ton of Fe. The slag produced at Völklingen during 1941-42 averaged SiO_2 31.75, Fe 4.03, Mn 2.60, Al_2O_3 5.49, CaO 7.95, MgO 1.22; R 0.71; S. 5.11, and total alkali 31.37%. To recover Fe in the slag, the slag must be crushed immediately after cooling and solidifying, and treated magnetically. Uses proposed for soda slag are: prepn. of various Na salts such as silicates, or phosphates; decompn. of raw phosphates; manuf. of Thomas slag, and production of hollow glassware. Soda slag is hygroscopic and if stored in the open air the sulfide oxidizes. The remaining mass cannot be ground. Fresh slag can be ground to a grain size of from below 0.2 mm. or 50% below 0.06 mm. The ground slag has a density of 1.05-1.15. If sulfide interferes in glass manuf., it can be completely removed from the slag by heating rapidly in a reducing atm. with the addn. of 10% sand. Or the sulfide can be oxidized to sulfate by an oxidizing roast at 500-600°, followed by melting down at 1000° to the SiO_2 slag giving a watery layer of about 95% Na_2SO_4.---From Chemical Abstracts.

20-24 PB L 52022 DIETZEL, A. (Kaiser-Wilhelm-Institut für Silikatforschung, Berlin-Dahlem). Possibilities of substitution for soda in the glass industry. In German. 1.00
To conserve soda (Na_2CO_3), it is proposed to either maintain the original soda content or to lower it by the addn. of other fluxes. To maintain the original Na content there can be substituted: (a) Na_2SO_4 + C, which can be used extensively for plate, bottle, window, and tumbler glasses, in amts. of 1 Na_2SO_4 to 3.5 soda by wt. For higher freedom from color the sulfate should not exceed 1%. (b) Rock salt, which is reacted with steam and sand in a shaft furnace to form a waterglass, contg. a few % of Cl. The method is very uneconomical. (c) Black Liquor, a trade residue contg. Na_2CO_3 47, org. Na compds. 11, C 39, Fe_2O_3 0.1, MnO 0.06, K_2O 0.35, SO_3 0.5%, plus small amts. of SiO_2, Al_2O_3, CaO, MgO, Cl, and P_2O_5. After baking, the org. Na compds. yield more Na_2CO_3, making available about 60% Na_2CO_3 and 40% C. The high C can be lowered by oxidizing with sulfate. Cost of black liquor is relatively low and clear or colored glasses can be made. (d) Soda slag contg. SiO_2 35, Al_2O_3 3-6, Fe_2O_3 2-7, TiO_2 1-3, CaO 8-8, MgO 1-3, MnO 4-11, P_2O_5 0.6-1, S 4-8, and Na_2O 20-38%. Metallic Fe is removed by magnetic sepn., sulfide by oxidation. A typical glass batch contains sand 66, lime 18, sulfate 21, and soda slag 24 parts by wt., giving a glass of 74% SiO_2, 12% CaO, 14% Na_2O in which 1/3 of the Na_2O entered as slag. Some of the lime may be introduced as gypsum. (e) Alkali-contg. rocks, such as feldspar, pegmatite, phonolite, etc., whose use is limited. Saving of soda by reduction of alkali content can be made by using: (1) Fluorspar in amts. corresponding to addns. of 1-3% CaF_2, resulting in alkali saving of 0.6-1%. (2) Mn oxide for special glasses. (3) TiO_2, which causes color streaks in glasses. (4) Various melting accelerators,

which only lower the alkali content a trifle. For color-free glasses there appear no worthwhile substitutes for soda.--From Chemical Abstracts.

25-27 PB L 52022 BROHMEYER (I. G. Farbenindustrie Wolfen, Stickstoff-Abteilung). "Distilled black liquor" for glass manufacturing. In German. 1.00

The double properties of alkali carrier and reducing agent are found in "Distd. black liquor," a trade waste of the cellulose pulp industry. In the alk. decompn. of cellulose-contg. matter NaOH or Na_2SO_4 is used. When Na_2SO_4 is used, Na_2S forms and causes the cellulose decompn. The boiling lye is regenerated and recirculated, the waste liquor therefrom being designated "black liquor." In the HNO_3 decompn. process, where soda lye is used in a stage of the treatment, the waste liquor (I) is also called "black liquor," but it differs from the black liquor of the soda process. (I) contains all matter existing in the wood in decompd. form, in addn. to cellulose as well as broken-down chemicals and decompn. products of the HNO_3 from the acid and alk. treatment. The cellulose alone remains unchanged in the process. (I) is boiled down as it comes from the cookers, and swelled up in a special app. at a temp. of 400-460°, and simultaneously granulated. The volatile org. matter distills off and the CO_2 formed changes all Na compds. into Na_2CO_3 except about 1% that remains unchanged as Na oxalate. This granulated product, "carbonized black liquor" (II), consists of Na_2CO_3 56-57, Na oxalate 1, C about 40, and inorg. impurities 1-1.5%. The d. of (II) is less than that of granulated soda. Uses for (II) are: decompn. agent for rock phosphate permitting lower furnace temps.; desulfurizer and reducing agent in Fe and steel industry; source of soda and reducing C in manuf. of stained, bottle, sheet, brown, and other glasses.--From Chemical Abstracts.

28-33 PB L 52022 FURKERT, H. (Sächsische Zellwolle A. G., Plauen, Germany). Sodium sulfate production in the manufacture of staple fiber. In German. 1.00

Na_2SO_4 from viscose production is recovered from the pptg. bath as Glauber's salt (I) by evapn. and vacuum crystn. Excess H_2O is removed from (I) by centrifuges whose screens are made of a chem.- and abrasion-resistant alloy, Vinidur. For most purposes, (I) must be calcined, giving a wt. reduction of over 50%. The free acid in (I) is neutralized and (I) is then calcined by a "wet" process to prevent decompn. On the basis of 100 tons of staple fiber per day, German production of (I) by crystn. was 104-156 tons, and of extd. Na_2SO_4 45-68 tons. Coal consumption for crystn. equals 1.2 tons per ton of fiber. For calcining, coal requirements are 0.5 ton per ton Na_2SO_4 with 75% steam utilization and 1.9 tons per ton Na_2SO_4 without steam utilization. The artificial fiber industry is a prime producer of (I).--From Chemical Abstracts.

34-36 PB L 52022 FREYTAG, H. (Deutsche Glastechnische Gesellschaft E. V., Frankfurt, Germany). Rock utilization in the glass industry. In German. 1.00

A bibliographical survey of the literature, chiefly Soviet Russian, on the utilization of rocks as a source of alkali. 33 references.--From Chemical Abstracts, v. 41, p. 4626, 1947.

37-38 PB L 52022 ENDELL, K. (Technische Hochschule, Berlin). Visualization of the sintering and melting of glass mixtures, soda, and soda slags in the electron microscope. In German. 1.00

This paper is a reference to the original publications. Four pictures are included.

39-51 PB L 52022 Discussion. In German. 1.00

The various problems arising during the discussion of the above lectures and the critical remarks and the supplementary suggestions made are summarized.

PB L 79193. HASS, A. Subject index of documents microfilmed at I.G. Farbenindustrie A.G., Knapsack and I.G. Farbenindustrie A.G., Zweckel. (FIAT Final Rept 1200). Jun 1947. 7 p. Price: Mimeo-$0.25

This is a FIAT report presenting a subject index of documents microfilmed at I. G. Farbenindustrie A. G. für Stickstoffdünger, Knapsack, and at I. G. Farbenindustrie A. G., Zweckel. The documents deal chiefly with the production of calcium carbide and its derivatives, and ethylene oxide and its derivatives.

PB L 17690. I. G. FARBENINDUSTRIE A. G. Reports of meetings of the Plastics Technical Commission (Kuteko), 1935-1944, and of the Detergents Raw Material (Waro) Group Conferences 1941-1944. (FIAT Microfilm Reel C 110, Frames 1-619, and 72 unnumbered frames) 1935-1944. 681 f. Price: Microfilm-$6.00 - Enlargement print-$68.50

Reel C 110 contains reports which were presented at meetings of the Plastics Technical Commission (Kuteko) and of the Detergents Raw Material Group (Waro) of the I. G. Farbenindustrie. The reports deal with plastic adhesives, ion-exchange resins, statistics on plastics, electrical cable-insulating materials, thermal and sound insulating materials, synthetic rubber, plastic leather substitutes, plastics impregnated paper containers, plastic emulsions and dispersions, plastic packaging materials, the Oxo-synthesis, synthetic fatty acids, synthetic detergents, etc. An index to the individual reports (PB 38119) and abstracts of the individual reports (PB 33524-PB 33641) are given below. In German.

PB L 38119. OFFICE OF TECHNICAL SERVICES, BIBLIOGRAPHY SECTION. Report of meetings of the Plastics Technical Commission (Kuteko), 1935-1944, and of the Detergents Raw Material Group (Waro) Conferences, 1941-1944, Index. (Index to FIAT Microfilm Reel C 110, PB 17690). Feb 1946. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00

This index lists the German and English titles of the reports contained in Microfilm Reel C 110, PB 17690 (see above) together with their PB numbers and the frame numbers on which each appears.

PB L 33525. MENGER. Report on adhesives given at the plastics division meeting in Frankfurt on Main on January 17, 1936. (I. G. Farbenindustrie, Uerdingen Kuteko report). (Frames 1-9 of FIAT Microfilm Reel C 110). Jan 1936. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00

This report reviews the production of adhesives in Uerdingen from 1922 to 1936 mainly from the business angle. The various

uses are outlined, and calculations given. The prospective importance of polyvinyl chloride products is emphasized. In German.

PB L 33528. GRIESSBACH. On the ion-exchange properties of synthetic resins. (I. G. Farbenindustrie, Wolfen. Kuteko report). (Frames 10-15 of FIAT Microfilm Reel C 110). Jan 1936. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
The results of Adams and Holmes (published in Industrial Chemist, 1934, and elsewhere) were confirmed. The products of condensation of polyphenols with formaldehyde have anion exchange properties, while those from aromatic or hydroaromatic amines with formaldehyde have cation exchange properties. Work in this field was in its beginning. In German.

PB L 33526. KLEBER. The legal situation for "Oppanol B." (I.G. Farbenindustrie, Ludwigshafen. Kuteko report). (Enlargement Print of FIAT Microfilm Reel C 110). (Follows frame 15). (3 unnumbered frames). Jan 1936. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report deals with the situation for production and sale of "Oppanol B" in view of the agreement between I. G. and Standard Oil of N. J. In German.

PB L 33527. KIEBER. Patent situation for "PCU" materials. (I.G. Farbenindustrie, Ludwigshafen. Kuteko report). (Enlargement Print of FIAT Microfilm Reel C 110). (Follows frame 15) (15 unnumbered frames). Jan 1936. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report reviews the situation in view of existing patents, mainly U. S. and French. A list of all these patents is attached. In German.

PB L 33524. KESSELER. Minutes of the 5th meeting of the plastics division on Jan 17, 1936, in Frankfurt on Main. (I.G. Farbenindustrie. Kuteko report). (Enlargement Print of Part of FIAT Microfilm Reel C 110) (Follows frame 15) (7 unnumbered frames). Jan 1936. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
This meeting dealt exclusively with business problems, such as sales in Germany and other countries, patents, contracts with firms in U. S., France and England, etc. Four reports given during the meeting are contained in PB 33525, 33528, 33526, and 33527 abstracted above. In German.

PB L 33529. ROSENBERG. Minutes of the 6th meeting of the plastics division on March 12, 1936 in Frankfurt on Main. (I. G. Farbenindustrie. Kuteko report). (Enlargement Print of FIAT Microfilm Reel C 110).(Follows frame 15) (8unnumbered frames). Mar 1936. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
The meeting started with a report on the use of "Igelite" for cable insulation (see PB 33530 abstracted below. In addition problems of business, industrial organization, patents, etc., were discussed. In German.

PB L 33530. KOLLEK. Comprehensive report on results to date in the application of "Igelit" in the field of cable insulation. (I.G. Farbenindustrie, Ludwigshafen. Kuteko report). (Enlargement Print of FIAT Microfilm Reel C 110). (Follows frame 15) (4 unnumbered frames). Mar 1936. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a report on negotiations with 24 German cable firms. The opinions expressed by the firms are reported and discussed. Practical tests of the new cables had not yet been made. In German.

PB L 33531. I. G. FARBENINDUSTRIE, A. G., UERDINGEN. Report on research results to date on polyvinyl ethers, given at the plastics division meeting in Frankfurt on June 5, 1936. (Kuteko report). (Frames 16-21 of FIAT Microfilm Reel C 110). Jun 1936. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
The adhesives produced at the time are described and their uses outlined. Improvements yet to be achieved are mentioned. In German.

PB L 33532. KRAEMER, M. H. and HÖHNER. Minutes of the first meeting of the experts commission for plastics and molded materials of the VDI on December 5, 1935 in the Grashof room of the Engineer Building in Berlin. (I. G. Farbenindustrie. Kuteko report). (Enlargement Print of FIAT Microfilm Reel C 110). (Follows frame 21) (13 unnumbered frames). Dec 1935. 13 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a report of the initial meeting of a committee in which several German government departments, the German army and navy, scientific and technical institutions, and the important producers were represented. The purpose was coordination of production, particularly in view of scarcities. The program is outlined. This document is marked "Anlage No. 2" (enclosure No. 2) probably to PB 33529 above. In German.

PB L 33533. KRAEMER, M. H. Minutes of the first meeting of the advisory committee of the expert commission for plastics and molded materials at the VDI on February 7, 1936, in the Grasshof room of the Engineer Building in Berlin. (I.G. Farbenindustrie. Kuteko report). (Enlargement Print of FIAT Microfilm Reel C 110). (Follows frame 21) (9 unnumbered frames). Feb 1936. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
This meeting was concerned with organization and planning in line with the programs as outlined in PB 33532 abstracted above. This document is marked "Anlage No. 3" (enclosure No. 3), probably to PB 33529 above. In German.

PB L 33534. I. G. FARBENINDUSTRIE, A. G., OPPAU. "Kaurit" foam mass for insulation purposes. (Kuteko report). (Frames 22-26 of FIAT Microfilm Reel C 110). Oct 1936. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
The foam, for insulation against heat and cold and against noise, is prepared from "Nekal BXS" and "Kaurit." A solution of "Nekal BXS" in water is filled into a container fitted with a stirring device, to obtain a fine foam. Then the "Kaurit" is added, and stirring continued. The foam is filled into molds of any shape. The specific weight of the dried foam is between .01 and .1, depending on the concentration of the solutions. In addition to its low heat conducting and high noise absorbing qualities, the material is non-inflammable and extremely resistant to water. See also PB 40896 abstracted in vol. 3, p. 634 of this Bibliography. In German.

PB L 33535. ROELIG, H. Technical properties and uses of Buna. (I.G. Farbenindustrie, Leverkusen. Kuteko report). (Frames 27-32 of FIAT Microfilm Reel C 110). Oct 1936. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a tabulation of condensed results of tests concerning the mechanical and electrical properties of Buna, and its use as machine parts and in cables. In German.

PB L 33536. I. G. FARBENINDUSTRIE A. G., LUDWIGSHAFEN. Manufacture of leather substitutes. (Kuteko report). (Frames 33-37 of FIAT Microfilm Reel C 110). Mar 1937. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report deals with the preparation of leather substitutes, using domestic raw materials as binding agents, such as polyvinyl compounds, which can be polymerized in batch or in emulsion processes to give a solid product or an emulsion. The methods of producing the two types of products are outlined separately, and the characteristics of the products are described. In German.

PB L 33537. GENSEL. The Trubenizing of wearing apparel. (I.G. Farbenindustrie, Ludwigshafen. Kuteko report). (Frames 38-41 of FIAT Microfilm Reel C 110). Mar 1937. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

There are essentially two processes of Trubenizing, i.e. permanently stiffening cuffs and collors without the use of starch. The one is carried out by means of acetyl cellulose, the other by means of thermoplastic vinyl polymers. Both procedures are described and several special methods based on these two procedures are discussed and evaluated. In German.

PB L 33538. RITTER. Aniline resin and aniline resin paper pulp molding materials. (I. G. Farbenindustrie, Ludwigshafen. Kuteko report). (Frame 42 of FIAT Microfilm Reel C 110). Mar 1937. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
A brief report is given of plant experiments on the production of aniline resin from aniline and formaldehyde and aniline resin paper pulp molding materials. In German.

PB L 33539. ESCALES. Cable developments. (I.G. Farbenindustrie, Ludwigshafen. Kuteko report). (Frames 43-54 of FIAT Microfilm Reel C 110). Mar 1937. 14 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report essentially concerns the status at the time of the manufacture of synthetic insulation for cables. The equipment for the processing of "Igelit" (injection machine, rolls, shearing apparatus), the range of application of "MP", "PCU" and mixtures thereof, and the qualities and range of use of the various final products are discussed. The suitability of "Oppanol" as starting product for cables is discussed. In German.

PB L 33540. KOLLEK. Kuteko meeting Mar 7, 1939. (I. G. Farbenindustrie. Kuteko report) (Frames 55-69 of FIAT Microfilm Reel C 110) Mar 1939. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
Among the subjects discussed at this meeting were the progress and status in the field of the following substances: 1. "Igelit" (a) "Igelit" without plasticizers, and materials prepared from it such as "Astralon", "Igelit" pressed articles, (b) "Igelit," containing plasticizers such as cable materials and "PCU" pastes. 2. "Oppanols"; 3. Safety glass aids; 4. Polystyrenes; 5. "Luvican"; 6. "Iganil"; 7. Artificial resin "FXH"; 8. Emulsions; 9. Substances for linoleum components. The release of new preparations is reported. In German.

PB L 33541. I. G. FARBENINDUSTRIE A. G. Twelfth meeting of the Plastics Technical Commission (Kuteko) on July 31, 1939. (Kuteko report). (Frames 70-87 of FIAT Microfilm Reel C 110). Jul 1939. 18 p. Price: Microfilm-$1.00 - Photostat-$2.00
At this meeting the following subjects were reported and discussed. A synopsis was given of the development of the various types of "Igelit," listing their names and characteristics. Attention is called to competitive preparations such as "Koroseal," "Vinylites," "Vinnol HH," which are compared with each other and with the various types of "Igelit." The release of a number of superpolyamide products is reported. The present situation in the field of injection molded materials, in the works on polyvinyl acetals, and in the research on casting and card board impregnation is reviewed. Page 1 is missing. In German.

PB L 33542. DROSTE. Present state of research on the use of emulsions in the "Myco-process." (I.G. Farbenindustrie. Kuteko report). (Frames 88-90 of FIAT Microfilm Reel C 110). Jul 1939. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
A French pilot plant installation (probably for the manufacture of paper containers according to the "Myco-process") was tested using various emulsions to impregnate the paper pulp. In German.

PB L 33543. I. G. FARBENINDUSTRIE A. G. Thirteenth meeting of the Plastics Technical Commission (Kuteko) on Dec 13, 1940. (Kuteko report). (Frames 91-100A of FIAT Microfilm Reel C 110). Dec 1940. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
These minutes contain reports and discussions concerning the status in the field of "Igelits" for soft plastics. The experiences with the types of "Igelit," particularly "Vinnol HH" and "Igelit PCU," and their suitability for the manufacture of cable insulation materials and "PCU" pastes are discussed. The other main object of interest is the recent development of the plastics dispersions. Also a list of new products recommended for release is presented. In German.

PB L 33544. ILOFF. Status of production of "Igelit PCU" for materials containing plasticizers. (I.G. Farbenindustrie. Kuteko report). (Frames 101-105 of FIAT Microfilm Reel C 110). Dec 1940. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report contains a procedure and testing data on an extremely high polymeric type of "Igelit PCU." The only advantage of this product proved to lie in its tensile strength, while its resistance to cold was not superior to that of the lower polymeric types. The following points were against the large scale manufacture of this high polymer: the low yield; the difficulty in achieving a high degree of polymerization with emulsifying agents other than "amphoseife 18"; the high milling temperature and the higher cost. In German.

PB L 33545. BERGER. The situation in the field of plasticized "Igelits." (I.G. Farbenindustrie. Kuteko report). (Frames 106-113 of FIAT Microfilm Reel C 110). Dec 1940. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
The influence of the polymerization and of the plasticizer on the electrical properties of "Igelits" is briefly discussed. The mechanical properties are dealt with in five tables, showing; (1) "K" value, "M" number, deformation, cold-resistance, water absorption, and ash content, of different materials. (2) Relationship among deformation, "K" value, and "M" number. (3) Cold resistance of Igelit samples. (4) Dependence of tensile strength on deformation. (5) Water absorption of Igelit samples before and after washing. The remainder of the report deals with commercial problems such as relationships with competitors. In German.

PB L 33546. WÜRSTLIN. Conductivity of plasticized "Igelit" materials. (I. G. Farbenindustrie. Kuteko report). (Frames 114-117 of FIAT Microfilm Reel C 110). Dec 1940. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The influence of various plasticizers on the conductivity of plasticized polyvinyl chlorides is discussed in connection with a table giving the resistance values of 11 plasticizers and of Igelit samples plasticized with each of them. The specific resistance of plasticized Igelit bears a relationship, not with the specific resistance of the plasticizer, but with the degree of viscosity. Rising temperature decreases the specific resistance as it decreases the viscosity. In German.

PB L 33547. GRASSL. "Igelit PCU" pastes. (I.G. Farbenindustrie. Kuteko report). (Frames 118-121 of FIAT Microfilm Reel C 110). Dec 1940. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
Desirable properties of the pastes are listed. Difficulties in their production are mentioned, which had not yet been overcome. A completely satisfactory plasticizer had not yet been found. The different pastes produced at the time and their uses are listed. The pastes were expected to become important in the future. In German.

PB L 33548. KLING. "Igelit PCU" pastes. (I. G. Farbenindustrie. Kuteko report). (Frames 122-133 of FIAT Microfilm Reel C 110). Dec 1940. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
These pastes are dispersions of a powdered "Igelit" in a plasticizer. The desirable properties of both components are discussed in detail. The differences among the products from different plants are described. The properties of the

films obtained are given in graphs and tables, and discussed. Investigations of the reasons for unsatisfactory results with "paste M special" are discussed; they were not yet completed. Also discussed are preliminary results of research on the effect of binding agents. In German.

PB L 33549. CRAEMER. The status of development in the field of dispersions of plastics. (I. G. Farbenindustrie. Kuteko report). (Frames 134-148 of FIAT Microfilm Reel C 110). Dec 1940. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report begins with an historical review of the development during the preceding 12-15 years. Then the properties of the dispersions are discussed with the aid of two tables. The various fields of application are listed. Suggestions for desirable improvements are made. In German.

PB L 33550. KOLLEK. Note to the 14th Kuteko meeting: Use of Igamides. (I. G. Farbenindustrie. Kuteko report). (Frames 149-154 of FIAT Microfilm Reel C 110). Jun 1941. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
Production figures, uses, properties, and details on the production of various "Igamides" are summarized in this document, most of which is very difficultly legible. Reproductions will probably be very poor. In German.

PB L 33551. BECK, HANS. The significance of the packing industry for the plastics field. (I. G. Farbenindustrie. Kuteko report). (Frames 155-163 of FIAT Microfilm Reel C 110). Dec 1941. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
Statistical data on various kinds of packing materials are presented and the possibilities of application and development of suitable I. G. Farben products are discussed. Reproduction of some of the pages of this document will probably be poor. In German.

PB L 33552. DANIELSKI, STEFANIE. Quality requirements of plastics for packaging purposes. (I.G. Farbenindustrie. Kuteko report). (Frames 164-178 of FIAT Microfilm Reel C 110). Dec 1941. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
Theoretical considerations with regard to physical and chemical properties of the materials used are discussed and the testing results for various I. G. Farben plastics described. In German.

PB L 33553. HIFFLINGER, KURT. The use of plastics in the packaging industry up to now, and future prospects. (I.G. Farbenindustrie. Kuteko Report). (Frames 179-189 of FIAT Microfilm Reel C 110). Dec 1941. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
Properties and details of production for the following materials are discussed: Celluloid and "cellon," molding compounds, "Oppanol B" dispersions, "Igelit PCU"-paste, "Cohaerit," and various films. In German.

PB L 33554. DAMMER. Flat boxes for packaging tablets. (I. G. Farbenindustrie. Kuteko report). (Frames 190-196 of FIAT Microfilm Reel C 110). Dec 1941. 7 p.
Price: Microfilm-$1.00 - Photostat-$1.00
The process involved in the production of the above boxes are described and illustrated in four pictures. The material used is chiefly polyvinyl chloride film. In German.

PB L 33555. DAMMER. Status of the "Myco" process. (I. G. Farbenindustrie. Kuteko report). (Frames 197-203 of FIAT Microfilm Reel C 110). Dec 1941. 7 p.
Price: Microfilm-$1.00 - Photostat-$1.00
The installation of a "Myco" plant, production figures and price calculations are presented. Seven pictures are attached. The text is very difficultly legible. In German.

PB L 33556. WEINBRENNER. Experiences with "Igelit" treated jute as packaging material for Buna. (I. G. Farbenindustrie. Kuteko report). (Frames 204-207 of FIAT Microfilm Reel C 110). Dec 1941. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document is chiefly a discussion whether it is profitable to replace paper by jute thus treated. Although a jute cover may be used 20 to 50 time, cost calculation favors paper. The legibility is very poor. In German.

PB L 33557. CRAEMER, KARL. Significance and development of the adhesive industry. (I. G. Farbenindustrie. Kuteko report). (Frames 208-212 of FIAT Microfilm Reel C 110). Dec 1941. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
The importance of adhesives for the manufacture of various products is emphasized. Production figures are given. Then apparently the history of synthetic adhesives is related. This part of the document is, however, very difficultly legible. In German.

PB L 33558. ALBERT, PETZ. Plastics in the adhesive industry. (I. G. Farbenindustrie. Kuteko report). (Frames 213-221 of FIAT Microfilm Reel C 110). Dec 1941. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
A detailed review of the first synthetic adhesives is presented. Methods of testings of these substances are reported with specifications of the elements examined. A great number of pertinent preparations are listed, described and evaluated. This report may reproduce poorly. In German.

PB L 33559. GRASSL. Igelit PC as adhesive. (I. G. Farbenindustrie. Kuteko report). (Frames 222-223 of FIAT Microfilm Reel C 110). Dec 1941. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
The preparation and uses of various mixtures with the above compound are described in this document. Most of the report is difficultly legible and will reproduce poorly. In German.

PB L 33560. DANIEL. Adhesives: "Klebemittel I and II, St III and IV". (I.G. Farbenindustrie. Kuteko report). (Frames 224-227 of FIAT Microfilm Reel C 110). Dec 1941. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
Raw materials and machinery necessary for the production of the above compounds are described. In German.

PB L 33561. CRAEMER. Minutes of the Kuteko subcommittee "Desmophen-Desmodur" meeting on October 12, 1943 at Leverkusen. (I. G. Farbenindustrie. Kuteko report). (Frames 228-238 of FIAT Microfilm Reel C 110). Oct 1943. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
This meeting reviews work and progress in the field of "Desmophen-Desmodur." The following subjects are discussed in particular: "Desmopher-Desmoden" raw materials for the production of adhesives and cements; the preparation of coatings and artificial leather from "Desmophen-Desmodur"; the use of this substance for paper and tissue impregnations; "Desmophen-Desmodur" foaming agents. In German.

PB L 33562. BECK. Minutes of the third meeting of the Kuteko subcommittee: Physical examination and evaluation of plastics, June 23, 1943 in Ludwigshafen. (I.G. Farbenindustrie. Kuteko report). (Frames 239-242 of FIAT Microfilm Reel C 110). Aug 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
These are minutes of the Third Session of the Kuteko subcommittee I of June 23, 1943 (Ludwigshafen, Berlin). The object of the meeting was to discuss the progress in the field of the new "Cellit" injection molding materials. In German.

PB L 33563. LÖFFLER. Minutes of the seventh meeting of Kuteko Subcommittee II (38th Kuteko meeting) on May 4,

1944, in Schkopau. "Development of plastics based on vinylchloride,". (I.G. Farbenindustrie. Kuteko report). (Frames 243-256 of FIAT Microfilm Reel C 110). Jun 1944. 14 p. Price: Microfilm-$1.00 - Photostat-$1.00
A history of the development of "Dioxid" is given. U. S. methods were followed. "Igelit PCU" production is discussed in detail, including the differences in quality in the products of the different plants. The effect of different stabilizers is compared. Other points discussed were the utilization of scrap material, polymers as shoe sole materials, adhesives for shoe soles, color fast materials. In German.

PB L 33564. FRIEDRICH. Experiences in processing "Igelit PCU" to soft "Mipolam." (I. G. Farbenindustrie. Kuteko report). (Frames 257-259 of FIAT Microfilm Reel C 110). May 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Experiences with "PCU," from Bitterfeld, Schkopau and Ludwigshafen, and their behavior in different mixing devices are related. In German.

PB L 33565. LÖFFLER. The relations between K-value, M-number and deformation, and the definition of the Schkopau "Igelit PCU" brands GN, G and GH. (I.G. Farbenindustrie. Kuteko report). (Frames 260-270 of FIAT Microfilm Reel C 110). May 1944. 11 p. Price: Microfilm-$1.00- Photostat-$1.00
It is explained that all three values have to be considered in order to gauge the effect of different emulsifiers. (M-number appears to be thenumber of molecules in the chain). The investigation was necessary because of the war scarcity of "amphoseife" and the search for an acceptable substitute. Results are given in a number of tables and graphs. Beyond this immediate purpose, a more exact classification of the products was hoped to result from this research. Legibility is poor. In German.

PB L 33566. KEMTSCHER, F. Brightening agent for "Igelit." (I.G. Farbenindustrie. Kuteko report). (Frame 271 of FIAT Microfilm Reel C 110). May 1944. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
Diphenylthiourea ("Stabiliser C") was best at low alkalinity, up to .3%. If more alkali is used, phenylindole ("Stabiliser I) proved somewhat superior. In German.

PB L 33567. HIRT. Minutes of the sixth meeting of Kuteko subcommittee II (34th Kuteko meeting) on Feb. 10, 1944, in Frankfort on the Main. "Development of plastics based on vinylchloride." (I. G. Farbenindustrie. Kuteko report). (Frames 272-289 of FIAT Microfilm Reel C 110). Feb 1944. 20 p. Price: Microfilm-$1.00 - Photostat-$2.00
The main purpose of this meeting was the classification of the different types of "Igelit." This is discussed in detail, and the different types with their composition and properties are listed in four tables. Also discussed were experiences with stabiliser I (2-phenyl-indol), production planning, and problems of competition and patents. In German.

PB L 33568. CRAEMER. Minutes of the fourth meeting of subcommittee III of "Kuteko" (35th Kuteko meeting) in Ludwigshafen on Rhein, on February 17, 1944, "Development of aqueous plastic dispersions." (I. G. Farbenindustrie. Kuteko report). (Frames 290-301 of FIAT Microfilm Reel C 110). Feb 1944. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document consists of abstracts of the reports given which appear in their entirety under PB numbers 33569-33573 below, and of the discussion which followed the lectures. In German.

PB L 33569. CRAEMER, KARL. Report on the present situation in the field of leather fiber and leather piece materials. (I. G. Farbenindustrie. Kuteko report). (Frames 302-306 of FIAT Microfilm Reel C 110). Feb 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Progress is claimed, while the lag in production is attributed to a bottleneck in binding agents. Suggestions are made as to how to overcome the shortage. Also discussed are testing methods and government regulations. A table gives the results of tests. In German.

PB L 33570. SPIECKER, W. Recent findings in the field of Mowilith-dispersions as binders for fibrous leather materials. (I. G. Farbenindustrie. Kuteko report). (Frames 307-308 of FIAT Microfilm Reel C 110). Feb 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
Properties of new Mowilith (= polyvinyl acetate) preparations are indicated. The dispersions are designated as "D 44 ca. 70%," "DV ca. 50%," "DV 32 ca. 58%," and "D 50 W ca. 50%." In German.

PB L 33571. CRAEMER, KARL. "Acronal" dispersions as binder for leather fiber materials. (I.G. Farbenindustrie. Kuteko report). (Frames 309-315 of FIAT Microfilm Reel C 110). Feb 1944. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
The new materials described were developed because of shortages which forbade the production of pure polyacrylester dispersions. Compositionsand experiences with them are given in five tables. The results described are only partially favorable. In German.

PB L 33572. SINN. The use of "Igetex" for the production of fibrous leather. (I. G. Farbenindustrie. Kuteko report). (Frames 316-325 of FIAT Microfilm Reel C 110). Feb 1944. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
The results with different types of "Igetex" are reported, with emphasis on the improvement by vulcanization. The influence of activators, softening agents, fillers, and lubricants is discussed. The results of numerous tests are given in 6 tables. In German.

PB L 33573. MERZ, KARL. "Igetex" as binder for leather fiber materials. (I. G. Farbenindustrie. Kuteko Report) (Frames 326-331 of FIAT Microfilm Reel C 110) Feb 1944. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
"Igetex S" and "SS" were tested because of the scarcity of acrylonitrile and consequent shortage of the superior "Igetex N." Good results are claimed either by vulcanization, or precipitation with "Soromin FL." The results of numerous tests are given in three tables. In German.

PB L 33574. SPIECKER, W. Testing the cold-flexibility of films of "Mowilith" in dispersions. New Mowilith D - plasticizers. (I. G. Farbenindustrie. Kuteko report). (Frames 332-339 of FIAT Microfilm Reel C 110). Feb 1944. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
In order to find good plasticizers for Mowilith-dispersions, the freezing temperatures of plasticised Mowilith D - films were determined by means of the "Überreiter-Klein" dilatometer. The straightline curves obtained with various plasticizers admitted of graphical extrapolation to mixtures of 100 parts of Mowilith and 50 parts of plasticiser. In German.

PB L 33575. MERZ, KARL. Precipitants for dispersions in the production of leather fiber materials. (I.G. Farbenindustrie. Kuteko report). (Frames 340-342 of FIAT Microfilm Reel C 110). Feb 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Tests were made with a number of metal salts and certain organic precipitants which were added to "Acronal 450 D alt." New substances used were aluminum triformate and "Tonalon S." In German.

PB L 33576. CRAEMER, KARL. Ways of improving the moisture resistance (of films). (I.G. Farbenindustrie. Kuteko report). (Frames 343-345 of FIAT Microfilm Reel C 110). Feb 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document deals chiefly with tests for the new Acronal 450 D dispersions to which sodium cellulose, "Polymin," aluminum sulfate, and other substances were added. In German.

PB L 33577. HECK and KOLLECK. Minutes of the second meeting of the Kuteko subcommittee VI: "Machines and apparatus for the processing of plastics" on June 25, 1943 in Ludwigshafen. (I.G. Farbenindustrie. Kuteko report). (Frames 346-352 of FIAT Microfilm Reel C 110). Jul 1943. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
Technical details and the action of kneading pumps, calenders, presses, etc. are indicated. In German.

PB L 33578. KIESSKALT, S. Kneading pumps. (I.G. Farbenindustrie. Kuteko report). (Frames 354-357 of FIAT Microfilm Reel C 110). Aug 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report describes the construction and operation of several types of motor-driven kneading pumps. They are used in the working of plastic materials. A patent list is appended. In German.

PB L 33579. DYNAMIT A. G., TROISDORF and I. G. FARBENINDUSTRIE A. G. Pressing procedure for making tablets. (Frames 353, 358-367 of FIAT Microfilm Reel C 40). Aug 1943. 18 p. Price: Microfilm-$1.00 - Photostat-$2.00
This document contains correspondence relating to machines and apparatus for the working of plastic materials. A new tabletting procedure for producing "Igelit" tablets is described. Several tables with diagrams are included, part of which may not reproduce well. In German.

PB L 33580. I. G. FARBENINDUSTRIE A. G. Minutes of the third meeting of the Kuteko subcommittee VI (36th Kuteko meeting) in Troisdorf, on March 3, 1944. (Kuteko report). (Frames 368-378 of FIAT Microfilm Reel C 110). Mar 1944. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
At this meeting several double worm-gear plastic milling machines constructed at Troisdorf are demonstrated. Their advantages and disadvantages are discussed and suggestions as to their improvement put forward. A report on an improved method of gelation of Igelit PCU soft material was given. The principle of the process in molding plastics is explained. Various other items mostly relating to plastics technology are discussed. In German.

PB L 33581. ERB. The action of worm-gear-pumps, particularly double worm-gear-pumps. (I.G. Farbenindustrie. Kuteko report). (Frames 379-383 of FIAT Microfilm Reel C 110). Feb 1944. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report deals with the action of various types of worm-gear-pumps used for the continuous working of substances. The processes of conveying, mixing and homogenizing, performed by these machines, are explained individually. The various types are compared as to their efficiencies with regard to the above processes. In German.

PB L 33582. I. G. FARBENINDUSTRIE A. G. Minutes of the third meeting of the Kuteko subcommittee VI (36th KUTEKO meeting) March 3, 1944, at Troisdorf. (Kuteko report). (Frame 384 of FIAT Microfilm Reel C 110). Mar 1944. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a brief report on the processing of Igelit by means of three types of kneading pumps. The actions of the individual types and their performacnes are described. In German.

PB L 33583. HONOLD. Thermodynamics of the rapid gelation process. (I.G. Farbenindustrie. Kuteko report). (Frames 385-394 of FIAT Microfilm Reel C 110). Apr 1944. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a theoretical discussion and a mathematical treatment of the factors involved in a projected gelation installation. Formerly, the necessary uniform increase of heat and distribution was achieved by a kneading process using rollers. Now, this kneading process is to be replaced by heating a 10 mm layer in a proper device. In German.

PB L 33584. DYNAMIT A.G., TROISDORF and I. G. FARBENINDUSTRIE A. G. Processes for working up molding materials based on polyvinyl chloride. (Kuteko report). (Frame 395 of FIAT Microfilm Reel C 110). Jan 1944. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
Five different procedures are briefly described together with the necessary equipment and diagrams of the molds. In German.

PB L 33585. AMENDE. On a new, mild, clothes-washing process. (I. G. Farbenindustrie. Waro report). (Frames 396-417 of FIAT Microfilm Reel C 110). Aug 1942. 23 p. Price: Microfilm-$1.00 - Photostat-$2.00
This is a report on a new economical washing process for laundering clothes. After the usual alkaline pre-treatment the laundry is washed with little soap at a pH value between 8 and 9, whereupon the washing is completed in the same medium, using any synthetic detergent without the addition of alkali. This method pays special attention to the removal of the firmly adhering inorganic stains. They receive a fat-like film by the pre-treatment with soap, thereby being converted into a state facilitating their removal with synthetic detergents. This procedure, moreover, is mild on the clothes, because the mechanical treatment does not take place in a strongly alkaline medium, which is particularly harmful to the textile fiber. The favorable results of the laboratory experiments were confirmed in practice. The studies are being continued. Numerous graphs and diagrams are included. In German.

PB L 33587. REPPE. Status of the Ludwigshafen research projects in the field of oxo-alcohols. (I.G. Farbenindustrie. Waro report). (Frame 418 of FIAT Microfilm Reel C 110). n. d. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a report on results with a small pilot plant. In separate high pressure chambers, olefines were subjected first to oxo-reaction, then hydrogenation. For the separation of the alcohols from the olefines, without fractionation, three different methods are declared possible: sulfonation, boric acid method, or hydroxyethylation. (See also PB 33586). Legibility is poor. In German.

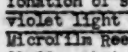
PB L 33586. HEROLD. Hydroxyethylation. (I.G. Farbenindustrie. Waro report). (Frame 419 of FIAT Microfilm Reel C 110). n. d. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
A special catalyst was developed, containing little cobalt with a large amount of non-carbonyl forming metals on a non-acid base. Experiments for continuous process are declared to be promising. The alcohols are separated by means of boric acid, or dehydrogenation with strong alkali. See also PB 33587 above. In German.

PB L 33588. REPPE. Olefin sulfonates. (I. G. Farbenindustrie. Waro report). (Frames 420-421 of FIAT Microfilm Reel C 110). n. d. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
Sulfonation transforms fatty alcohols and oxo alcohols into the sulfuric acid esters of primary alcohols, the olefins into those of secondary alcohols. The second group is more soluble, while its detergent qualities are at least as good

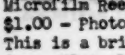
as those of the first group. Some may be used as substitutes for "Amphoseife 18" in polymerization. Legibility is poor. In German.

PB L 33589. I. G. FARBENINDUSTRIE A. G. Direct sulfonation of saturated hydrocarbons with the aid of ultraviolet light or ozone. (Waro report). (Frame 422 of FIAT Microfilm Reel C 110). n. d. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a brief note on experiments which were to be tested in a pilot plant. In German.

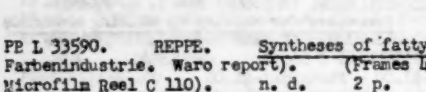
PB L 33590. REPPE. Syntheses of fatty acids. (I.G. Farbenindustrie. Waro report). (Frames 423-424 of FIAT Microfilm Reel C 110). n. d. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
Acetylene with alcohol, nickel carboxyl and hydrogen chloride forms ethylacrylate, nickel chloride and hydrogen. With certain nickel catalysts the reaction can be carried out catalytically, and alcohol can be replaced by water, amines, or mercaptans yielding acrylic acid, acrylamide or thioacrylic acid esters. Acetylene and carbon monoxide react under certain conditions to form the unstable cyclopropenone



, which in turn forms acrylic acid with water



and acrylic acid esters with alcohol. This reaction has been applied to olefins and it was found that with certain catalysts the reaction proceeds quantitatively and stoichiometrically:



Straight chain fatty acids are formed simultaneously with α-methyl fatty acids, the alkali salts of which are stated to be more soluble and to have a higher foam forming capacity than natural soaps. By catalytic hydrogenation the corresponding alcohols are obtained quantitatively. In German.

PB L 33591. HEROLD. Direct production of fatty alcohols of higher molecular weight. (I. G. Farbenindustrie. Waro report). (Frame 425 of FIAT Microfilm Reel C 110). n. d. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document briefly discusses the production of higher molecular weight alcohols by the Oxo-process. By working with iron catalysts at 20 atm. pressure, and reducing the synthesis temperature the content of oxygen containing products could be raised to 60-70%. In German.

PB L 33592. MÜSSLEIN. Minutes of the discussion of problems in the field of detergents in the Color Department, Hoechst, June 10, 1940. (I.G. Farbenindustrie. Waro report). (Frames 426-435 of FIAT Microfilm Reel C 110). Jun 1940. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
Investigations are reported on the use of various synthetic detergents and their ability to replace soap. In German.

PB L 33593. MÜSSLEIN. Minutes of the meeting with the firm, Henkel, Düsseldorf, regarding detergent problems on June 24, 1941, in Frankfort on the Main. (I.G. Farbenindustrie. Waro report). (Frames 436-440A of FIAT Microfilm Reel C 110). Jul 1941. 6 p. Price: Microfilm-$1.00-Photostat-$1.00
Substances of the type of "Emulphor O" are compared; further progress is expected. Testing methods are discussed. Mixing formulae are given for a product containing arylsulfonate, two containing "Mersolat B" and 4 containing "Mezapon N." The effect of tylose in laundering is discussed. Plans for other products are mentioned, and business problems discussed. In German.

PB L 33594. MÜSSLEIN. Meeting of experts in Frankfort on the Main on Feb. 28, 1941. (I. G. Farbenindustrie. Waro report). (Frames 441-451 of FIAT Microfilm Reel C 110). Mar 1941. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
The following subjects were discussed: The "HPA" mixture, consisting of tylose, pyrophosphate, and "trilon," was declared highly satisfactory as an addition to detergents, for as yet unexplained reasons. The effect of silicates was to be further investigated. The scarcity of raw materials, and the greater sensitivity of cellulose wool materials to alkaline detergents had to be considered. Other subjects were the spray drying of detergent powders, binders for soaps, a synthetic liquid detergent for washing the hands, consisting of 10% "Mesapon N," 1% "Viscol SNA" and 1% "Dermolan" and a number of other products the composition of which is not disclosed. In German.

PB L 33595. THIEL. "Alipons" OAV and OAN. (I.G. Farbenindustrie. Waro report). (Frames 452-459A of FIAT Microfilm Reel C 110). Jul 1941. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
The detergent "Alipon OAV" is a condensate of sodium hydroxyethane sulfonate and the foreruns of fatty acid chlorides which contain the low and medium boiling point fractions. The "OAN" product is obtained by the same reaction, using the tailings of fatty acid chlorides which contain the higher boiling point fractions. In German.

PB L 33596. THIEL. Alipon OTN. (I.G. Farbenindustrie. Waro report). (Frames 460-465 of FIAT Microfilm Reel C 110). Nov 1941. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
Properties, directions for preparation and cost calculations for the above detergent are presented, which is a condensate of fatty acid chloride and methylaminoethane sodium sulfonate. In German.

PB L 33597. MÜSSLEIN. "Mersolat" instead of "Kalunit" in "Hexawa." (I.G. Farbenindustrie. Waro report). (Frame 466 of FIAT Microfilm Reel C 110). Feb 1942. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a short report on test-washing with a detergent in which the active substance of a competitor was replaced with an I.G. Farben-product. In German.

PB L 33598. THIEL. "Alipal D." (I. G. Farbenindustrie. Waro Report). (Frames 467-470 of FIAT Microfilm Reel C 110). Apr 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
"Alipal D," a detergent, consists of 2 mol isohexylene/heptylene and 1 mol phenol, condensed with 4 mol ethylene oxide and sulfonated with amido-sulfonic acid. Properties and directions for its preparation are indicated. In German.

PB L 33602. I. G. FARBENINDUSTRIE A. G. Testing of new products. (Waro report). (Frames 471-472B of FIAT Microfilm Reel C 110). Apr 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The results of comparative tests of various detergent products are reported. Detergents containing sulfo groups are described. Their exact composition and preparation is not disclosed in this paper. In German.

PB L 33603. MÜSSLEIN. Laundry strained in the washing machine. (Veröffentlichung von Dr. Kind in der Wäscherei- und Plätterei-Zeitung, heft 6,S,62). (I. G. Farbenindustrie. Waro report). (Frame 473 of FIAT Microfilm Reel C 110). Mar 1943. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

the wear and tear of fabrics through washing by washing machines is to be attributed to the mechanical action of the machine, and not to the use of synthetic soaps free of fatty acids which had replaced ordinary soaps. In German.

PB L 33604. MÜSSLEIN. Testing "Le 2/83" in comparison with oxosulfate, oxo fatty acids, etc. (I. G. Farbenindustrie. Waro report). (Frame 474 of FIAT Microfilm Reel C 110). Feb 1943. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is correspondence about "Le 2/83," a carboxylic acid, used as textile aid, not further identified. In German.

PB L 33605. MÜSSLEIN. Oxosulfates made at Lenna. (I. G. Farbenindustrie. Waro report). (Frame 475 of FIAT Microfilm Reel C 110). Jan 1943. 1 p.
Price: Microfilm-$1.00 - Photostat-$1.00
This is a short letter in which the suggestion is made to study hydroxyethylation products and carboxylic acids of oxoalcohols for their properties as detergents. In German.

PB L 33606. I. G. FARBENINDUSTRIE A. G. Products based on azoalcohols. (Waro report). (Frames 476-478 of FIAT Microfilm Reel C 110). Oct 1942. 3 p.
Price: Microfilm-$1.00 - Photostat-$1.00
These products - without disclosing their composition - were tested as detergents. In German.

PB L 33607. STADEN. Corrections for cost calculations of "Mersolat 30." (I. G. Farbenindustrie. Waro report). (Frames 479-480 of FIAT Microfilm Reel C 110). Feb 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document gives a correction of previous calculations of cost of production of "Mersolat 30." In German.

PB L 33609. STADEN, V. Mersolat H, salt-containing and low in salt, in tablets. (I. G. Farbenindustrie. Waro report). (Frames 481-484 of FIAT Microfilm Reel C 110). Sep 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
"Mersolat H" differs from "Mesapon N" (Mepasin-sulfonate) only in its form and way of production. The salt containing product contains 15-20% of sodium chloride and 1-1.6% of neutral oil in addition to the active substance, the other product contains 1-2% of sodium chlorine and 0.3-0.5% of neutral oil. Both are detergents. Cost calculations are included. In German.

PB L 33608. STADEN. Announcement of new products. "Oxosulfates I, II, III, Ia, IIa, IIIa." (I. G. Farbenindustrie. Waro report). (Frames 485-485A of FIAT Microfilm Reel C 110). Oct 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
"Oxosulfates" are sulfonation products of oxoalcohols which in turn are obtained from cracked olefins or primary olefins. "I" is the sulfonation product of a mixture of C_{12}-C_{18} alcohols, "II" that of a mixture of C_{13}-C_{18} alcohols, and "III" that of a mixture of C_{14}-C_{18} alcohols. The products "I-III" contain Na_2SO_4, the products "Ia-IIIa" contain Na_2CO_3. All of them are detergents. In German.

PB L 33610. STADEN, V. Announcement of new products. "Calcium mersolat." (I. G. Farbenindustrie. Waro report). (Frames 486-487 of FIAT Microfilm Reel C 110). Jan 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Composition, preparation, cost calculations, etc. for the above compound are given which can be used in the production of solid and liquid metal cleaning agents. In German.

PB L 33611. STADEN, VON. Announcement of new products. "Synolsulfates I, II, III." (I. G. Farbenindustrie. Waro report). (Frames 488-489 of FIAT Microfilm Reel C 110). Apr 1945. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
"Synolsulfates I, II, III" are sulfonation products of "Synolalcohols" which in turn were developed at Leuna. "I" is the sulfonation product of a C_{12}-C_{18} alcohol-mixture, "II" that of C_{13}-C_{18} alcohol-mixture, "III" that of a C_{14}-C_{18} alcohol mixture. Preparation of the alcohols and properties of their derivatives to be used as detergents are described. See also PB 33608 above. In German.

PB L 33612. STADEN, VON. Announcement of new products. "Mersolat 30," low in salt. (I. G. Farbenindustrie. Waro report). (Frames 490-491B of FIAT Microfilm Reel C 110). Jan 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
Composition, preparation, cost calculation, etc. for the new detergent "Mersolat 30" are given which is a sulfochlorination product of "Kogasin." In German.

PB L 33613. HEROLD and STADEN, VON. Dirt - softening agents for the household. (I. G. Farbenindustrie. Waro report). (Frame 492 of FIAT Microfilm Reel C 110). Jan 1944. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document indicates that the German soap industry refused to accept the innovations of I.G. Farben. The various department heads were advised to publish outstanding results only. In German.

PB L 33614. DOSER. New, mild clothes-washing process. (I. G. Farbenindustrie. Waro report). (Frames 493-497 of FIAT Microfilm Reel C 110). Sep 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Reference is made to German patent applications I 67037 and I 67164. BDT is a mixture consisting of 50% sodium ditrichlorobenzyl taurate, and 50% sodium-monooleylsuccinate. Cost calculations, the patent situation, and contracts are reported. Directions for its production are given. A table indicates the cost of the starting materials, the cost of manufacturing and the selling prices. In German.

PB L 33615. AMENDE. Replacing soap with "Tylose MGC 25." (I. G. Farbenindustrie. Waro report). (Frames 498-504 of FIAT Microfilm Reel C 110). Jul 1940. 8 p.
Price: Microfilm-$1.00 - Photostat-$1.00
This document describes in great detail test-washing of various fabrics with soap to which the above agent was added. "Tylose MGC 25" is a cellulose ether sodium glycolate. The results are tabulated. In German.

PB L 33616. AMENDE. Further experiments for replacing soap and "Mesapon" with "Tylose MGC 25" or "Netyl HB." (I.G. Farbenindustrie. Waro report). (Frames 505-511 of FIAT Microfilm Reel C 110). Oct 1940. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
Exhaustive tests to replace Tylose are reported. The results of all tests were negative.

PB L 33617. SCHWEN. Viscol SNa (25%) for thickening liquid skin lotions. (I. G. Farbenindustrie. Waro report). (Frames 512-514 of FIAT Microfilm Reel C 110). n. d. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Without disclosing the composition of the product called "Viscol SNa (25%)" the effects produced by the compound, to increase the viscosity of solutions of detergents and various formulations are presented. In German.

PB L 33619. SCHWEN and ULRICH. Raw material used in the production of the detergent, "Lu NA 8-100%." (I. G. Farbenindustrie. Waro report). (Frames 515-518 of FIAT Microfilm Reel C 110). Jan 1941. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
Lu NA is a brown highly viscous liquid consisting of stearic acid ethanolamide reacted with 8 mol ethylene oxide whereby polyoxyethylether is formed. This substance was tested as a washing agent. In German.

PB L 33618. THIEL. Directions for the production of raw material for the detergent "Lu Na8-100%." (I. G. Farbenindustrie. Waro report). (Frames 519-525 of FIAT Microfilm Reel C 110). Feb 1941. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
"LuNa8 100%" consists of "Soromin A base 100% Z," powdered caustic soda, and ethylene oxide. "Soromin A base" is obtained by the reaction of stearin and monoethanolamine. Cost calculations are included. In German.

PB L 33620. SCHWEN. Arylsulfonic acid. (I. G. Farbenindustrie. Waro report). (Frame 526 of FIAT Microfilm Reel C 110). Apr 1941. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a letter in which experiments for the preparation of a washing powder with arylsulfonic acid by cold spraying are summarized. In German.

PB L 33621. KUCKERTZ. Experiments to produce a washing powder with arylsulfonic acid by spraying. (I. G. Farbenindustrie. Waro report). (Frames 527-533 of FIAT Microfilm Reel C 110). Mar 1941. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
Seven tests with seven different formulations are described. It was concluded that a powder of satisfactory properties could be made with about 10% by weight of aryl sulfonate with the usual quantities of sodium carbonate, water glass and Tylose MHR. In German.

PB L 33622. AMENDE. Testing hydroxyethylation products as clothewashing agents. (I. G. Farbenindustrie. Waro report). (Frames 534-541 of FIAT Microfilm Reel C 110). May 1941. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
Various synthetic products were tested for their ability to replace soap made from natural fatty acids. In German.

PB L 33623. SCHWEN. Current problems in the field of detergents. (I. G. Farbenindustrie. Waro report). (Frames 542-546 of FIAT Microfilm Reel C 110). Jul 1941. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a report on a discussion of current problems, studies and experiences in the field of detergents. It includes detergents for laundries, washing powders for home use, and tests with detergents. In German.

PB L 33624. SCHWEN. Arylsulfonate - Mesapon N. (I. G. Farbenindustrie. Waro report). (Frame 547 of FIAT Microfilm Reel C 110). Feb 1942. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a short note on testing of the two above detergents. Arylsulfonate was found to be superior. In German.

PB L 33625. AMENDE. Testing of arylsulfonate and "Mesapon N" for as clothes-washing agents. (I. G. Farbenindustrie. Waro report). (Frames 548-552 of FIAT Microfilm Reel C 110). Feb 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report presents a series of experiments with aryl sulfonate and "Mesapon N" conducted in a private laundry establishment. The detergents were tested for their cleaning effect on linen. Both chemicals showed an increasing efficiency with increasing concentration; until a maximum cleaning point was reached which could not be surpassed by an increase of concentration. The maximum efficiency of aryl sulfonate was superior to that of "Mesapon N," as was evident from graphs. These results confirm those arrived at by Dr. Uhl, at Nuremberg (Nov. 21, 1941). A table and a graph are included. In German.

PB L 33626. SCHWEN. "HF paste GO." (I. G. Farbenindustrie. Waro report). (Frames 553-556 of FIAT Microfilm Reel C 110). Jul 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The above condensate used for the preparation of detergents is a paste-like suspension of 70 parts of methanol urea, 30 parts of water and 0.6% of methylether. Directions for its preparations and cost-outlay, etc. are presented. In German.

PB L 33627. AMENDE. Testing of arylsulfonate and "Mesapon" N as clothes-washing agents. (I. G. Farbenindustrie. Waro report). (Frames 557-560 of FIAT Microfilm Reel C 110). Feb 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is the detailed report on washing tests with the above detergents which was summarized in PB 33625. In German.

PB L 33628. SCHWEN and others. Testing new products based on oxoalcohols. Detergent Lu 3/153. (I. G. Farbenindustrie. Waro report). (Frames 561-565 of FIAT Microfilm Reel C 110). Jul 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
The active substance of the detergent "Lu 3/153" consists of 39.1% of tridecylalcohol sodium sulfonate. On account of its high foaming power it is a good substitute for "Cyclanon 14." "Lu 3/154" is another detergent with about 56% of active substance. In German.

PB L 33629. MÜSSLEIN. Testing of new products: Oxosulfates I, II, III, Ia, IIa, IIIa. Oxosulfates I, II, III. "Detergent HO 1/114." (I. G. Farbenindustrie. Waro report). (Frames 566-568 of FIAT Microfilm Reel C 110). Dec 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report deals essentially with the testing of new detergents represented consisting of oxoderivatives. The detergents were compared with each other as to solubility, stability wetting and foaming capacities as well as cleaning power. Directions for the use of the detergents discussed are given and demands for additional studies expressed. The report discusses these compounds regarding their usefulness as detergents in commercial laundries, in domestic laundering and as face and body cleansing agents. In German.

PB L 33630. SCHWEN. New, mild clothes-washing process. (I. G. Farbenindustrie. Waro report). (Frame 569 of FIAT Microfilm Reel C 110). Sep 1942. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This memorandum briefly describes a new washing process for white linen. In German.

PB L 33631. ULRICH and others. Testing new products. Detergent Lu 3/191. (I. G. Farbenindustrie. Waro report). (Frames 570-573a of FIAT Microfilm Reel C 110). May 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
The above detergent consists of about 93% of Schiff's base of sodium sulfanilate and a C_8-C_{10}-aldelyde obtained by the oxo-reaction. The remaining 7% consists chiefly of sodium sulfate. Instructions for its preparation, paten situation, testing results, etc. are indicated. In German.

PB L 33632. SCHWEN. On new products: Detergent HO 1/181. (I. G. Farbenindustrie. Waro report). (Frame 573b of FIAT Microfilm Reel C 110). May 1944. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a letter concerning the formulation of the above detergent. In German.

PB L 33633. SCHWEN and ULRICH. Detergent Lu 3/176 conc. (Igepon B conc. paste). (I. G. Farbenindustrie. Waro report). (Frames 574-579A of FIAT Microfilm Reel C 110). Jan 1944. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
The above detergent contains about 60 parts of the sodium salt of the sulfonated amide of oleic acid and 1,3-amino-hydroxy-butane. The remainder consists of inorganic salts, a little urea, formamide, and water. Instructions for its preparation, cost-outlay, patent situation, and test results are presented. In German.

PB L 33634. ULRICH. Testing new products: Detergent "Lu 3/180." (I. G. Farbenindustrie. Waro report). (Enlargement print of FIAT Microfilm Reel C 110). (Follows Frame 579a) (2 unnumbered frames). Dec 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This letter contains supplementory data on a patent application concerning the testing of new detergents. A cost sheet is included. In German.

PB L 33635. QUADVLIEG. Note on experiments to prepare laundering detergents from "Mersolats," conducted by the Weber Cremer Company, Düsseldorf, Apr. 28-30, 1941. (I. G. Farbenindustrie. Waro report). (Frames 580-582 of FIAT Microfilm Reel C 110). n. d. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Laundering detergents containing 10 percent "Mersolate" and 40 percent water were successfully prepared by the cold spray method, with the customary addition of soda and water glass. In German.

PB L 33636. ULRICH. Announcement of new products. Synthetic washing paste "Ko Fl A5." (I. G. Farbenindustrie. Waro report). (Frames 583-584 of FIAT Microfilm Reel C 110). Nov 1941. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
Composition and directions for the preparation of a new detergent are presented. In German.

PB L 33637. ULRICH. Shampoo bases and - powders. (I. G. Farbenindustrie. Waro report). (Frames 585-588 of FIAT Microfilm Reel C 110). Jul 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
Composition, directions for preparation and costs for 4 shampoo bases and powers are presented, the essential component of which is "Mersolat HR." In German.

PB L 33638. HAGGE. Mersolat HR paste. (I. G. Farbenindustrie. Waro report). (Frames 589-591 of FIAT Microfilm Reel C 110). Sep 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Composition, method of production, costs and suggestions for utilization of the above product are indicated. In German.

PB L 33639. WIETZEL, G. Synthetic fatty acid and its conversion products. (I. G. Farbenindustrie. Waro report). (Frames 592-593 of FIAT Microfilm Reel C 110). Feb 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report reviews the prospects for the production of synthetic fatty acids from paraffins. In particular, the yield and the use of the various distillation fractions are discussed. An outline is given of a new working up process in connection with the synthesis of fatty acids. In German.

PB L 33640. KALLE and CO. A. G. "Tylose HBR" for washing agents. (I. G. Farbenindustrie. Waro report). (Frames 594-604 of FIAT Microfilm Reel C 110). Jul 1941. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
This pamphlet, published by the above firm, deals with washing in general, alkaline washing agents, soaps and substitutes for fatty acid. The older products "Kalunit," "Cyclanon," "Sekurit," "Igepon," "Mersol," and "Mersolat" are discussed. Tylose HBR is described with special attention to its active components and utilization. In German.

PB L 33641. SCHMIDT. Detergents produced by Kalle and Co. (I. G. Farbenindustrie. Waro report). (Frames 605-608 of FIAT Microfilm Reel C 110). Sep 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This memorandum describes a program for providing the German population with detergents. The barring of curd and soft soaps for domestic use is pointed out. Saving of soap by pretreatment of laundry with Tylose containing agents is discussed. Because of the absence of phosphates in detergents, the possibilities of releasing Tylose for laundering detergents is considered necessary. Investigation of these proposals by competent authorities is urged. The first page of this publication is missing. In German.

PB L 33599. VOSS. Dirt-softening agent for the household. (I. G. Farbenindustrie. Waro report). (Frames 609-611 of FIAT Microfilm Reel C 110). Dec 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Such an agent consisting of soda, water glass, "Mersolat H" and Tylose was described in an earlier paper and is now declared to be highly satisfactory. The changes in composition both of the preliminary and main laundering agent proposed here were to minimize the effect of wartime scarcity of "Mersolat" and Tylose. In German.

PB L 33600. I. G. FARBENINDUSTRIE A. G. Abstract of the minutes of the 4th meeting of the Commission on Raw Materials for Detergents, on Feb. 2, 1943 in Frankfort on Main. (Waro report). (Frames 612-617A of FIAT Microfilm Reel C 110). Feb 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This meeting was concerned with the increasing strain of the raw material situation. Most of the contributions to the discussion dealt with scarcities and possible substitutes. Calcium mersolate is obtained by transformation of sodium mersolate with calcium chloride, in n-propyl alcohol solution at 100° C. It serves for the preparation of cleansing agents. Several methods for the preparation of "Mersolat H" by partial sulfochlorination of mersol are described. A product based on alkylphenol, obtained from two moles isohexylene-heptylene mixture and 1 molephenol, condensed with 4 moles ethylene oxide and sulfonated with amidosulfonic acid, is said to produce the best detergent of whitewash type. Other products are briefly mentioned. In German.

PB L 33601. I. G. FARBENINDUSTRIE A. G. Constitution of various detergents. (Waro report). (Frames 618-619 of FIAT Microfilm Reel C 110). n. d. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a list which gives the composition of 16 I. G. Farben-products together with their trade names. In German.

* PB L 80400. NEUBAUER, J. A. High temperature chlorination of methane at Hüls. (FIAT Final Rept 1154). Jun 1947. 5 p. Price: Mimeo-$0.25
The equipment and the process used to produce carbon tetrachloride by the high temperature chlorination of methane is described. The process consists of a two-stage burning of methane with chlorine. The excess chlorine in the first stage acts as a diluent, while the hydrogen chloride gas formed by the first stage burner acts as a diluent in the second stage burner.

PB L 78267-S. REICHSANSSCHUSS FÜR LIEFERBEDINGUNGEN, BERLIN. Sales conditions and test methods for lactic acid casein (as raw material for technical purposes). (FIAT Final Rept 651, Supp.; RAL-093B). 1932. 19 f. Price: Microfilm-$1.00 - Enlargement Print-$2.00
These are regulations agreed on by various companies and agencies which are listed by names. Standards required for the lactic acid casein and marketing conditions are laid down, with special consideration of the various grades. Detailed instructions for the qualitative and quantitative analyses to be performed for testing purposes are given. This is a supplement to Steadmans report "The manufacture of paper tubes, bobbins and cones in Germany" (see PB 78267 abstracted in vol. 7, p. 232 of the Bibliography.

* PB L 80399. THORNHILL, FRED S. Acetylene carbon blacks. (FIAT Final Rept 1186). Jun 1947. 15 p. Price: Mimeo-$0.50
Descriptions of two manufacturing processes of acetylene

blacks are given. Both methods are based on the exothermic reaction. $C_2H_2 \longrightarrow 2C + H_2 + 54.3$ kg.-cal/mol. The reaction is carried out either in a static process in closed tubes or in a continuous process operating in a flow system. A list of German personnel interviewed, targets visited, bibliography, samples evacuated, microfilm index and drawings, a flow sheet and diagram of reactor are appended.

*PB L 80611. YOUNG, K. W. Investigation of certain chemical factories in the Leipzig area of Germany. (CIOS XXXIII-31, Item 22). Jun 1945. 150 p. Price: Microfilm-$3.00 - Photostat-$10.00
Nine chemical plants were hurriedly visited in this area, in order to obtain as broad outlines as possible of the processes, prior to Russian occupation. The report has been put together as a series of thirty-nine short reports arranged according to similarity of products. The plants were shut down and very few records, reports, or drawings were available and most of the sketches attached were drawn from rough notes taken on the plants.

FUELS AND LUBRICANTS

PB L 40286. LOWRY, H. H. and ROSE, H. J. Coal and coke research at Gutehoffnungshutte A. G., Oberhausen. Jul 1945. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 80694. MILLER, ALBERT E. and others. Dissemination of information from the Technical Oil Mission. Dec 1945. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
A communication from Albert E. Miller, Secretary, Technical Advisory Committee (TAC), a subcommittee of the Petroleum Industry War Council PIWC), under the Petroleum Administration for War (PAW) concerning: (a) the setting up of a peacetime industrial group to be known as the API Technical Oil Mission Study Group to continue certain named functions of the work handled by TAC, and (b) method of distribution of reports previously handled by TAC. Attached is a list of these reports.

PB L 80612. PARKER, W. G. and others. Visit to chemical research establishments working on combustion problems. (BIOS Final Rept 532, Item 26 & 30). Jun 1946. 67 p. Price: Microfilm-$2.00 - Photostat-$5.00
This report contains information about work of a fundamental nature on combustion with particular reference to the aero engine and the development of aviation fuels done in some German establishments. The analysis of gases and organic compounds which is an important ancillary to such work was also considered and methods useful for airborne equipment as well as in the laboratory were investigated.

PB L 80698. U. S. TECHNICAL OIL MISSION. Analytical method report No. 1. (Tech Advisory Committee Rept ZAL-1). Aug 1945. 51 p. Price: Microfilm-$2.00 - Photostat-$4.00
Early in 1945 a group of petroleum and fuel technologists investigated the present status of oil technology and research in Germany. The investigation consisted of: (1) examination of synthetic-oil, refining, and other plants related to production of petroleum products as previously outlined in a target list, (2) interrogation of German technical and administrative personnel with these plants, and (3) capture and examination of records, reports, and other documents relating to this industry. This report carries 46 abstracts of analytical reports from Oppau, Ludwigshafen and Leuna. Twenty-seven of which the author of report designates as a special interest.

PB L 80697. U. S. TECHNICAL OIL MISSION. Catalytic cracking. (Tech Advisory Committee Rept CAMC-10). Jul 1945. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Catalytic cracking was not carried out in Germany on a commercial scale as we know it in the United States. Experimental work was being carried out at Leuna on a catalytic process similar to the TCC process, using a silica alumina catalyst. It was planned to build a commercial unit using this process at a proposed underground aviation gasoline plant near Nordhausen.

PB L 80696. U. S. TECHNICAL OIL MISSION. DHD dehydrogenation-high-pressure process. (Tech Advisory Committee Rept DMC-2). Jul 1945. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The DHD process was developed in Germany by the I. G. Farbenindustrie A. G. for the catalytic dehydrogenation of naphthenes to aromatics and intended primarily for use in improving gasolines produced by hydrogenation. The catalyst employed is molybdena on alumina and the reaction is carried out with recycle hydrogen under a pressure of 400-600 lbs., at a temperature slightly above 925° F. A simplified flow diagram of the process is attached as Figure 1.

PB L 80695. U. S. TECHNICAL OIL MISSION. Hydroforming process. (Tech Advisory Committee Rept HFMC-2). Jul 1945. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This process was obtained from the Germans and developed in America for the production of aromatics from straight run gasoline. A simplified flow diagram of the Leuna unit is attached as Figure 1. The conclusion is - "on the whole, it does not appear that anything of particular value is to be learned from the Germans on the hydroforming process since the development in the United States seems to be more advanced than in Germany."

MACHINERY (EXCEPT ELECTRICAL)

PB L 30906. GRANT, D. Unsatisfactory operation of Pesco air booster pumps, part No. 354. (AAF Material Command Memo Rept U-EXP-M-51-4672, Addendum 2) Mar 1941. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 74635. KLÖCKNER-HUMBOLDT-DEUTZ A. G., COLOGNE, GERMANY. Motor test reports. (FIAT Microfilm Reel L 102, Frames 1453-2074). 1937-1944. 623 f. Price: Microfilm-$6.00 - Enlargement print-$62.50.
This reel was prepared by FIAT investigators in Germany. 60 individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
1453-1478 PB L 74635	Construction of two-cycle gas engines. 1939-1940. In German.	$ 2.50
1479-1498 PB L 74635	Conversion of Diesels to ignition injection. 1941. In German.	2.00
1499-1500 PB L 74635	Tests of gasoline injection. 1940. In German.	1.50
1501-1505 PB L 74635	Investigation of a four-cylinder motor with four primer valves and using compressed air. 1939. In German.	1.50

1506-1509 PB L 74635 — Testing of a supercharger. 1940. In German. 1.50

1510-1512 PB L 74635 — Testing of "Solar" oil from the Dutch East Indies. 1939. In German. 1.50

1513-1515 PB L 74635 — Testing of bearings. 1939. In German. 1.50

1516-1517 PB L 74635 — Testing of a compressor. 1940. In German. 1.50

1518-1565 PB L 74635 — Theoretical investigation of the operating conditions of connecting rod bearings. 1937. In German. 5.00

1566-1588 PB L 74635 — Investigation of a motor. 1939. In German. 2.50

1589-1591 PB L 74635 — Starting tests with compressed air. 1939. In German. 1.50

1592-1596 PB L 74635 — Centrifugal clutch. 1939. In German. 1.50

1597-1602 PB L 74635 — Determination of the combustion chamber displacement and position of spark plugs. 1939. In German. 1.50

1603-1605 PB L 74635 — Globe relief valve. 1939. In German. 1.50

1606-1608 PB L 74635 — Investigation of a Ford-BB motor operated with wood gas. n. d. In German. 1.50

1609-1612 PB L 74635 — Front friction bearing. 1939. In German. 1.50

1613-1640 PB L 74635 — Development of hydraulic atomizing pumps to permit the using of viscous fuels without a booster fuel. 1942. In German. 3.00

1641-1666 PB L 74635 — Basis for the use of viscous fuels without booster fuels. 1941. In German. 5.00

1667-1686 PB L 74635 — Investigation of a gear pump and various feeding lines for operation with highly viscous oils. 1940. In German. 2.00

1687-1700 PB L 74635 — Operation and determination of consumption values and output data of motors. 1939. In German. 1.50

1701-1705 PB L 74635 — Starting tests at temperatures below -5°C. 1940. In German. 1.50

1706-1715 PB L 74635 — Investigating manual starting and operation with gasoline of a single cylinder motor. 1939. In German. 1.50

1716-1718 PB L 74635 — Starting of a gas motor. 1939. In German. 1.50

1719-1727 PB L 74635 — Breaking-in of Diesel motors with wood gas. 1939. In German. 1.50

1728-1729 PB L 74635 — Investigation of cylinder heads. 1940. In German. 1.50

1730-1745 PB L 74635 — Change-over to "Otto" operation with liquid gas and gasoline. 1939. In German. 2.00

1746-1748 PB L 74635 — Tests with bituminous coal tar oil from the Saar region. 1939. In German. 1.50

1749-1751 PB L 74635 — Starting tests with a motor by means of compressed air. 1939. In German. 1.50

1752-1756 PB L 74635 — Loss of oil at crank shaft bearings. 1939. In German. 1.50

1757-1762 PB L 74635 — Suction resistance of the standard automobile motor. 1939. In German. 1.50

1763-1770 PB L 74635 — Investigating the corrosion properties of various lignite oils. 1939. In German. 1.50

1771-1773 PB L 74635 — RPM range of a locomotive motor. 1939. In German. 1.50

1774-1781 PB L 74635 — Investigation of a turbine unit motor and fuel pumps. 1939. In German. 1.50

1782-1785 PB L 74635 — Testing a slurry oil made by I. G. Farben for use as a motor fuel. 1939. In German. 1.50

1786-1788 PB L 74635 — Piston cooling oil-joints. 1939. In German. 1.50

1789-1790 PB L 74635 — Testing fuel with an octane number of 74. 1939. In German. 1.50

1791-1792 PB L 74635 — Anti-flutter rings. 1939. In German. 1.50

1793-1803 PB L 74635 — Testing the fuel consumption and promoting smooth operation of the motor. 1940. In German. 1.50

1804-1806 PB L 74635 — Fuel from Trinidad. 1939. In German. 1.50

1807-1810 PB L 74635 — Testing of crude oil from Brazil. 1939. In German. 1.50

1811-1820 PB L 74635 — Testing a motor operated with thick oils and heating oils. 1940. In German. 1.50

1821-1827 PB L 74635 — Capacities of cooling water pumps. 1942. In German. 1.50

1828-1837 PB L 74635 — Improvement of the cold-starting quality of automotive motors. Cold starting tests down to -40° C. 1942. In German. 1.50

1838-1850 PB L 74635 — Improvement of the cold starting quality of automatic motors. Cold starting tests down to -30° C. 1942. In German. 1.50

1851-1858 PB L 74635 — Breaking-in of a new design engine for the purpose of charging tests. 1942. In German. 1.50

1859-1889 PB L 74635 — Ignition injection operated motor with anthracite gas. 1942. In German. 3.50

1890-1920 PB L 74635 — Change-over of motors to "Otto" operation with wood gas and coal generator gas. 1942-1943. In German. 3.50

1921-1925 PB L 74635 — Gear-type oil pump. 1942. In German. 1.50

1926-1936 PB L 74635 — Formation of vapor bubbles. 1942. In German. 1.50

1937-1942 PB L 74635 — Testing a motor with intermittent regulation for the operation of dredges. 1942. In German. 1.50

1943-1949 PB L 74635 — Operation of a pressure gas installation. 1942. In German. 1.50

1950-1957 PB L 74635 — Otto cycle operation with wood gas. 1942. In German. 1.50

1958-1962 PB L 74635 — The most efficient change-over of locomotive engines to use generator gas. 1942. In German. 1.50

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Machinery (contd)

1963-1966 PB L 74635	Tests concerned with the lowering of the fuel consumption of a Diesel engine. 1942. In German.	1.50
1967-1978 PB L 74635	Pressure measuring devices. 1942. In German.	1.50
1979-1985 PB L 74635	Use of powder cartridges as aid in starting. 1942. In German.	1.50
1986-2038 PB L 74635	Breaking in of a motor. 1942. In German.	5.50
2039-2046 PB L 74635	Wood gas operation with a "Mercedes" motor. 1942. In German.	1.50
2047-2054 PB L 74635	Basis for the purifying installation of a lignite gas generator. 1944. In German.	1.50
2055-2074 PB L 74635	"Otto" operation with anthracite gas and wood gas at various compressions. 1942. In German.	2.00

PB L 31915. PATTISON, R. R. and TUCK, S. F. Air compressors for M.A.P. aero research equipment. (BIOS Evaluation Rept 380) Feb 1946. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

MEDICAL RESEARCH AND PRACTICE, INCLUDING CLINICAL APPLICATION OF DRUGS AND PHARMACEUTICALS

PB M 28567. DANSER, JAMES F. Captured Japanese medical items. Apr 1945. 3 p. Price: Microfilm-$1.00-Photostat-$1.00

PB M 74258. ERLANGEN, GERMANY. UNIVERSITY. A collection of doctors' theses. (FIAT Microfilm Reel D 160, Frames 8148-8284) 1940-1943. 1137 f. Price: Microfilm-$6.00 - Enlargement print-$114.00

This FIAT microfilm reel consists of 61 theses on various medical subjects. The material was obviously seized in the library of the above university. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
8148-8158 PB M 74258	True diffuse phlebarteriectasia. By Kupfermann. 1940. In German.	$ 1.50
8159-8198 PB M 74258	Population studies at an Upper-Silesian peasant village. By Laberke. 1941. In German.	4.00
8199-8222 PB M 74258	Results of climatic therapy in a secondary mountain chain, demonstrated by the behavior of the skin temperature. By Lüschner. 1941. In German.	2.50
8223-8232 PB M 74258	Laxative effect of the Glauber salt and sodium chloride in mineral water drinking cures. By Loth. 1941. In German.	1.50
8233-8249 PB M 74258	Contribution to the treatment of oral diseases. By Mainka. 1941. In German.	2.00
8250-8257 PB M 74258	Circumscribed arachnoidal sarcoma of the cerebellum. By Marquardt. 1940. In German.	1.50
8258-8267 PB M 74258	Effect of tight clothing on the human body. By May. 1941. In German.	1.50
8268-8307 PB M 74258	On the properties and effect of mud baths, with special regard to the viscosity of the mud and the results of measuring its viscosity by means of a plummet. By Mehl. 1940. In German.	4.00
8308-8346 PB M 74258	Hahnemann and the homeopathic schools before and after his time. By Mehlhose. 1940. In German.	4.00
8347-8355 PB M 74258	Untoward incidents occuring in the serotherapy of diptheria and meningitis, and means of their control or prevention. By Menze. 1941. In German.	1.50
8356-8363 PB M 74258	Alleviation of labor pain by "Duochin". By Mielke. 1941. In German.	1.50
8364-8374 PB M 74258	Syphilis of the vulva. By Muschner. 1941. In German.	1.50
8375-8389 PB M 74258	Management of blood transfusions, with special regard to requirements in war medicine. By Oeffinger. 1940. In German.	1.50
8390-8399 PB M 74258	"Hemostatic" effect on blood pressure (Effect of different positions of the body on blood pressure). By Olearius. 1941. In German.	1.50
8400-8409 PB M 74258	Differences in dentition in uniovular and binovular twins. By Piechotta. 1941. In German.	1.50
8410-8419 PB M 74258	Effect of different activities on cutaneous circulation. By Reimann. 1941. In German.	1.50
8420-8425 PB M 74258	Capillary resistance and its bearing on menstruation in women. By Rudel. 1940. In German.	1.50
8426-8438 PB M 74258	The metastatic tumors of the central nervous system. By Rudzki. 1941. In German.	1.50
8439-8460 PB M 74258	The role of bacteria in caries according to recent literature. By Sacher. 1941. In German.	1.50
8461-8475 PB M 74258	The effect of sulfur baths on the skin temperature. By Sadel. 1941. In German.	1.50
8476-8499 PB M 74258	Present situation in the treatment of otogenic meningitis. By Schneemilch. 1941. In German.	2.50
8500-8511 PB M 74258	May the colloidal phase buffer test be used for the specific sero diagnosis of tuberculosis? By Schroeder. 1941. In German.	1.50
8512-8533 PB M 74258	Cutaneous metastases in the presence of cancer of internal organs and of the skin. By Schwabe. 1941. In German.	2.00
8534-8549 PB M 74258	Studies on the bacteria content of ice-cream. By Stammwitz. 1941. In German.	2.00
8550-8562 PB M 74258	Effect of coffee on achievements in sports. By Stephan. 1941. In German.	1.50

8563-8571 PB M 74258 — Investigations on hypertrophy of the adrenal cortex following castration and a diet lacking in vitamin B_1. By Steuer. 1941 In German. 1.50

8572-8579 PB M 74258 — Treatment of pyelitis, cystitis and bacilluria with "Albucid". By Strachotta. 1941. In German. 1.50

8580-8592 PB M 74258 — Influence of practicing several activities common in every-day life on the strength of the respective muscular actions. By Thieme. 1940. In German. 1.50

8593-8604 PB M 74258 — Clinical discussion on the treatment of osteomyelitis of the lower jaw. By Thomas. 1941. In German. 1.50

8605-8625 PB M 74258 — Dental implications of essential aleukia hemorrhagica or panmyelophthisis. By Thürnagel. 1940. In German. 2.50

8626-8665 PB M 74258 — Infant mortality in the City of Ratibor, with special regard to its social conditions. By Ullrich. 1941. In German. 4.00

8666-8676 PB M 74258 — Contribution to the so-called "dilaceration" according to Thomes-v. Wunschheim. By Vogt. 1940. In German. 1.50

8677-8689 PB M 74258 — Diagnostic and prognostic importance of the sternal punctate in myelopathias. By Walter. 1941. In German. 1.50

8690-8706 PB M 74258 — Patterns of foot imprint and patterns of gait. By Weist. 1940. In German. 2.00

8707-8726 PB M 74258 — Malpractice and negligence in dentistry. By Wolko. 1940. In German. 2.00

8727-8774 PB M 74258 — Histamine and intestinal obstruction. By Bessel-Lorck. 1942. In German. 5.00

8775-8825 PB M 74258 — Medical topographies of German language areas, prepared in the nineteenth century. By Brandlmeier. 1942. In German. 5.50

8826-8886 PB M 74258 — Ulrich Ellenbog, "Stadtarzt" (municipal medical officer) of Memmingen and his treatises on plague. By Breher. n. d. In German. 6.50

8887-8891 PB M 74258 — Animal experiments dealing with the problem of "Altitude convulsions and air temperature". By Bunge. 1942. In German. 1.50

8892-8923 PB M 74258 — Hereditary etiologic factors in intersexuality. By Crapnik. 1942. In German. 3.50

8924-8943 PB M 74258 — Relationship between eclampsia and allergic diathesis or diseases rendering allergic. Anatomical research and attempt at a critical investigation. By Deweritz. 1942. In German. 2.00

8944-8955 PB M 74258 — Coincidence of tuberculosis and Graves' disease. By Elten. 1942. In German. 1.50

8956-9006 PB M 74258 — Hygiene of working in fascist Italy. By Felten. 1942. In German. 5.50

9007-9036 PB M 74258 — "Nervous children" : cases of a spasmophilic-tetanoid constitution with or without neurotic hereditary traits. By Friedrich. 1942. In German. 3.00

9037-9042 PB M 74258 — Pulse rate and expulsion time of the heart, as found experimentally in alpine regions, during work, and in acute lack of oxygen. By Heimsoth. 1942. In German. 1.50

9043-9059 PB M 74258 — So-called "testing fever" and pathological anatomy. By Heinemeyer. 1942. In German. 2.00

9060-9067 PB M 74258 — Comparative investigations into the effect of freshly baked and stale whole-grain bread on the glycogen content of the liver. By Herrmann. 1941. In German. 1.50

9068-9078 PB M 74258 — Performing Schultz-Charlton's blanching reaction with "Homoseran". By Hinz. 1942. In German. 1.50

9079-9087 PB M 74258 — Effect of artificial fever on gastric secretion. By Jaenicke. 1941. In German. 1.50

9088-9107 PB M 74258 — Changes about teeth situated within the area of benignant or malignant tumors of the jaws. By Jahn. 1942. In German. 2.00

9108-9118 PB M 74258 — Effect of spinal puncture on bronchial asthma : possible relationship to insulin shock therapy. By Jomuleit. 1943. In German. 1.50

9119-9134 PB M 74258 — The ill-treated child amidst normally treated brothers and sisters. By Kaboth. 1942. In German. 2.00

9135-9142 PB M 74258 — Experiments on the effect of rapid reduction of air pressure on animals. By Keller. 1942. In German. 1.50

9143-9160 PB M 74258 — Spinal fluid findings in the presence of spinal tumors. By Klauenflügel. 1941. In German. 2.00

9161-9169 PB M 74258 — Pathogenesis of angiomatous cysts of the hemisphere. By Klein. 1942. In German. 1.50

9170-9179 PB M 74258 — Esophago-broncho-tracheal fistulae. By Koschorrek. 1942. In German. 1.50

9180-9191 PB M 74258 — Behavior of several plastic materials as to shear strength, color fastness and color absorption. By Kraus. 1942. In German. 1.50

9192-9214 PB M 74258 — Pseudotumor cerebri. By Krietemeyer. 1942. In German. 2.50

9215-9227 PB M 74258 — Measurements on phantoms with irradiation under oblique rotation. By Lengeling. 1942. In German. 1.50

9228-9236 PB M 74258 — Investigations into the oxytocin and vasopressin content of the posterior lobe of the pituitary gland of rats and the influence of administering sodium chloride and water to these animals when kept under a salt-free diet. By Liebert. 1942. In German. 1.50

9237-9284 PB M 74258 — Health and disease among coal miners : studies on morbidity and frequency of morbid defects from prevalent diseases in a mine district. By Marsch. 1942. In German. 5.00

PB L 74170. ERLANGEN, GERMANY. UNIVERSITY. A collection of doctors' theses. (FIAT Microfilm Reel D-163, Frames 1523-2645) 1938-1941. 1124 f. Price: Microfilm-$6.00 - Enlargement print-$112.50.
This FIAT microfilm reel consists of 70 items dealing with several branches of medicine. The material was obviously seized in the library of the above university. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
1523-1530 PB L 74170	Studies of the relationship between Weltmann's coagulation problem of the allergic origin of hepatopathias. By Hoveler. 1940. In German.	$1.50
1531-1540 PB L 74170	Spontaneous rupture of the bladder. By Hohrath. 1941. In German.	1.50
1541-1569 PB L 74170	Views of the Strasbourg physician, Johann Winther von Andernach, on ancient and modern medicine, according to his work of 1571. By Hollfelder. 1939. In German.	3.00
1570-1580 PB L 74170	Knee presentations. By Hoppe. 1939. In German.	1.50
1581-1592 PB L 74170	Anthropological evaluation of X-ray over-all pictures. By Hovestadt. 1940. In German.	1.50
1593-1600 PB L 74170	Contribution to the problem of chronic carbon monoxide poisoning. By Huck. 1940. In German.	1.50
1601-1641 PB L 74170	Freiherr Anton von Stoerck and his contributions to the healing art. By Huege. 1940. In German.	4.50
1642-1650 PB L 74170	Sensitization of the skin to dinitrochlorobenzene. By Hulser. 1940. In German.	1.50
1651-1659 PB L 74170	Contribution to the problem of chloroma. By Huren. 1941. In German.	1.50
1660-1668 PB L 74170	Similarity between meningococci and gonococci or properties common to both. By Jacke. 1941. In German.	1.50
1669-1680 PB L 74170	Evidence of complete sensitization in guinea-pigs painted with dinitrochlorobenzene. By Jansen. 1940. In German.	1.50
1681-1695 PB L 74170	Significance of strophantine for transitory disturbances of the intraventricular conduction system. By Janssen. 1940. In German.	1.50
1696-1703 PB L 74170	On the problem of the relationship between cutaneous tuberculosis and pulmonary tuberculosis. By Jansen. 1940. In German.	1.50
1704-1727 PB L 74170	Charles Michael Billard's contribution to the progress of pediatrics. By Ihringer. 1939. In German.	2.50
1728-1742 PB L 74170	Present state of research on the relationship between disease and handwriting. By Johannssen. 1940. In German.	1.50
1743-1750 PB L 74170	A case of endocarditis with embolism into the left brachial artery. By Johnen. 1940. In German.	1.50
1751-1763 PB L 74170	Number and fate of prematures delivered at the women's hospital of the Medical Academy of Duesseldorf in the years of 1930-1934. By Irmer. 1941. In German.	1.50
1764-1782 PB L 74170	Effect of infusion of peppermint leaves on gastric secretion. By Karrenbrock. 1941. In German.	2.00
1783-1800 PB L 74170	Contribution to the genesis of elephantiasis. Case report. By Kathmann. 1939. In German.	2.00
1801-1814 PB L 74170	Contribution to traumatic ruptures of the symphysis. By Kaufmann. 1940. In German.	1.50
1815-1833 PB L 74170	Defects in the drinking water supply and corrective measures, as observed by the author. By Kaup. 1940. In German.	2.00
1834-1866 PB L 74170	Life and work of Heliodorus. By Kenrings. 1940. In German.	3.50
1867-1878 PB L 74170	Prognosis of childhood tuberculosis with regard to cases of intrafamilial and extrafamilial infection. By Kessing. 1940. In German.	1.50
1879-1889 PB L 74170	The conception of prevention of traffic accidents and clinical and serological findings(in body fluid analyses for the detection of alcohol). By Killmer. 1941. In German.	1.50
1890-1898 PB L 74170	Precision instrument determinations of aneurine in urine by the method of Otto and Ruhmekorb. By Kirchhoff. 1940. In German.	1.50
1899-1911 PB L 74170	Indication for orthopaedic and orthodontic interventions in open bites. By Kissel. 1940. In German.	1.50
1912-1929 PB L 74170	Treatment of epidemic meningitis with sulfonamide preparations. By Klamroth. 1941. In German.	2.00
1930-1941 PB L 74170	A case of extreme congenital malformation of the body. By Klapheck. 1940. In German.	1.50
1942-1949 PB L 74170	Clinical results in managing breech presentations by means of Bracht's manual method. By Kleff. 1941. In German.	1.50
1950-1966 PB L 74170	Experience with skin-testing by Gudzent's method (with "Allergenin"). By Klusener. 1940. In German.	2.00
1967-1986 PB L 74170	Problems of milk supply in large cities. By Knapp. 1940. In German.	2.00
1987-1999 PB L 74170	Contribution to the problem of aortic rupture, based on findings on the post mortem material of the institute for pathological anatomy at Duesseldorf. By Knotte. 1938. In German.	1.50
2000-2016 PB L 74170	The red blood pattern under the influence of oxygen lack. By Koch. 1938. In German.	2.00
2017-2040 PB L 74170	Indication for and technique of tooth extractions. By Kohler. 1941. In German.	2.50
2041-2047 PB L 74170	Two-stage rupture of the spleen. By Kolzer. 1940. In German.	1.50

2048-2056 PB L 74170 — Course and etiology of so-called acute yellow atrophy of the liver. By Konigshausen. 1940. In German. 1.50

2059-2067 PB L 74170 — Results of medical and surgical treatment of spastic pylorostenosis, based on the cases treated in the Solingen children's hospital during the past ten years. By Kortenhaus. 1940. In German. 1.50

2068-2075 PB L 74170 — Investigations on the porphyrin content of blood and urine after injections of protoporphyrin. By Korthaus. 1940. In German. 1.50

2076-2096 PB L 74170 — Blood tests as a means of exclusion of paternity (statistical records from the years 1935-1940). By Krah. 1941. In German. 2.50

2097-2110 PB L 74170 — On tumors of the umbilicus. By Kratz. 1940. In German. 1.50

2111-2116 PB L 74170 — Injuries to the female organism by nicotine ; a study of the effect of tobacco on 1000 female tobacco workers, with special regard to the female genitals and their functions. By Krebs. 1940. In German. 1.50

2117-2137 PB L 74170 — Bronchial asthma and internal secretion. By Krelhaus. 1940. In German. 2.50

2138-2149 PB L 74170 — On Gardenigo's syndrome. By Keytenberg. 1940. In German. 1.50

2150-2159 PB L 74170 — On porphyrin formation during sulfonamide medication. By Krieg. 1941. In German. 1.50

2060-2081 PB L 74170 — Comprehensive reports on polyneuritis after sulfonamide medication. By Krieger. 1941. In German. 2.50

2082-2098 PB L 74170 — Ectopic pregnancies during the second half of gestation including a case of ectopic pregnancy carried to term. By Kuhling. 1941. In German. 2.00

2199-2215 PB L 74170 — Life and work of the French dentist, Emile Magitot. By Kuhnohl. 1940. In German. 2.00

2216-2224 PB L 74170 — Unusual fatal hemorrhages of the esophagus and stomach (esophageal varices without pyloric congestion, hemangioma arteriosum of the stomach). By Kunstler. 1941. In German. 1.50

2225-2234 PB L 74170 — Etiology and symptomatology of subarachnoidal hemorrhages in childhood. By Kurle. 1941. In German. 1.50

2235-2247 PB L 74170 — Basal metabolism and increase of body weight during pregnancy. By Kuntzmuller. 1940. In German. 1.50

2248-2255 PB L 74170 — Cervical myoma and pregnancy. By Kunze. 1940. In German. 1.50

2256-2272 PB L 74170 — Pulmonary edema and childbirth. By Kutzner. 1940. In German. 2.00

2273-2291 PB L 74170 — Building of blocks of dwelling houses formerly and nowadays. By Langhoff Wilgers. 1938. In German. 2.00

2292-2322 PB L 74170 — Clinical observations on perforated peptic ulcers of the jejunum. By Laufenberg. 1938. In German. 3.50

2323-2339 PB L 74170 — Contribution to the symptomatology of lead poisoning in neurologic and psychiatric respects. By Lauffs. 1938. In German. 2.00

2340-2350 PB L 74170 — A rare malignant mixed tumor of the liver in a 16-month-old boy. By Leffers. 1941. In German. 1.50

2351-2367 PB L 74170 — Raynaud's disease in children. By Lehment. 1940. In German. 2.00

2368-2391 PB L 74170 — Phenomenologic contribution to the tetany problem. By Leuchtenberg. 1941. In German. 2.50

2392-2402 PB L 74170 — Contribution to the knowledge of the standard values of tallness and weight for 6-year-old boys in Dusseldorf. By Lichtenberg. 1941. In German. 1.50

2403-2415 PB L 74170 — Detection of Diatomeae in the lungs of drowned and its significance for the proclamation of death by drowning in the Rhine. By Lober. 1940. In German. 1.50

2416-2424 PB L 74170 — Investigations on the excretion of acid by the human stomach as a result of the effect of parotin extract. By Lohrmann. 1938. In German. 1.50

2425-2448 PB L 74170 — The surgeon, Felix Wirtz, his life and work. By Lorenz. 1940. In German. 2.50

2449-2461 PB L 74170 — Blood cell sedimentation and effect of general and local anesthesia on this phenomenon. By Ludwig. n.d. In German. 1.50

2462-2472 PB L 74170 — Infanticide: crime statistics and psychiatrical analysis based on cases of the institute for forensic medicine in Dusseldorf. By Marzhausen. 1940. In German. 1.50

2473-2484 PB L 74170 — Decrease of serum sickness following diphtheria and effect of additional treatment with vitamin C and adrenal cortex extract on the course of diphtheria in 1937. By Malchin. 1938. In German. 1.50

2485-2500 PB L 74170 — Significance of simple excision in the treatment of lupus vulgaris. By Max. 1939. In German. 2.00

2501-2507 PB L 74170 — Pathogenesis of epithelial metaplasias in the mucosa of the uterus. By Mechlen. 1940. In German. 1.50

2508-2524 PB L 74170 — Catamnestic investigations on the further development of children who were treated for spasmophilia in the children's ward of the Medical Academy of Dusseldorf during the years 1907-1918. By Mehring. 1940. In German. 2.00

2525-2535 PB L 74170 — On "Neutracid" as protective agent for the pulp, during fillings with silicate. By Mehring. 1940. In German. 1.50

2536-2549 PB L 74170 — Contribution to the problem of so-called erythroleucoblastosis of the newborn. By Mellinghoff. 1940. In German. 2.00

2550-2558 PB L 74170 — Skin test and leukopenic index in late exudative diathesis. By Merten. 1941. In German. 1.50

Medical Research (contd)

2559-2570 PB L 74170 — Primary malignant renal tumors other than hypernephroma. By Merten. 1940. In German. 1.50

2571-2594 PB L 74170 — Contribution to the etiology and pathogenesis of disorders of the nervous conduction system in the heart. By Mews. 1941. In German. 2.50

2595-2607 PB L 74170 — Studies regarding the frequency of the group properties of the groups A_1 and A_2. By Meyer. 1940. In German. 1.50

2608-2624 PB L 74170 — Active immunization against diphtheria. By Michael. 1938. In German. 2.00

2625-2636 PB L 74170 — Contribution to the pathology of miliary necroses of the liver of unknown origin. By Michel. 1940. In German. 1.50

2637-2645 PB L 74170 — Present results of subtrochanteric osteotomy in inveterate cases of congenital dislocation of the hip-joint. By Millhoff. 1939. In German. Incomplete. 1.50

PB M 12863-S. GERMANY. REICHSFORSCHUNGSRAT. General correspondence and reports on medical research projects. Feb-Apr 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a supplement to a report of the same title and source as indicated above (PB 12863 on page 777 of volume 1 of the Bibliography). The present document gives the titles of medical reports, summaries of secret orders and letters pertaining to medical research. In English.

* PB M 80359. LUSTIG, R. T. Biophysics with special reference to electrobiology. (FIAT Final Rept 884). May 1947. 98 p. Price: Mimeo-$2.50
This report reviews German development in ultra short wave therapy and research in dielectric constants and specific resistance of animal and human tissue. Sensitive detectors in the field of infra red, visible light, ultra-violet, X-ray, and radio activity are described and photostatically illustrated. A new instrument for erythrocyte determinations is described. Several devices of interest to the biophysicist are referred to in this report and instruction as to where they may be obtained is included.

PB M 1698-S. MISCELLANEOUS military documents from Army headquarters. (Abstracts in English of documents included in PB 1698). 1940-1944. 45 p. Price: Microfilm-$1.00 - Photostat-$3.00
These documents are a supplement to "Miscellaneous German scientific and medical documents" (PB 1698 on page 272 of vol. 1 of the Bibliography). They are English synopses of 45 research papers on various medical topics, prepared by the American Medical Association.

MINERALS AND MINERAL PRODUCTS

PB L 52022. GERMANY. REICHSAMT FÜR WIRTSCHAFTSAUSBAU. Chemische Berichte Jan 1943. Meeting of the cooperative group supplying the glass industry with alkali, May 3, 1942. Jan 1943. 49 p. Price: Microfilm-$1.00 - Photostat-$4.00

For abstracts of these papers see "Chemicals and Allied Products--Miscellaneous Chemicals" in this issue of the Bibliography.

PB L 79509. HOWER, LAWRENCE D., JR. and others. Refractory insulating coatings for metal. Interim report no. 2, Feb 1 - Mar 1, 1947. (Rutgers Univ N. J. Ceramic Res Station Rept 3). Mar 1947. 5 p. Price: Mimeo-$0.25
This is a very brief report covering progress made during a one month's period on a research project on refractory coating for metals. An improved Oxygen-Acetylene torch was designed and tested. A sketch of this torch is included.

PB L 79511. HOWER, LAWRENCE D., Jr. and others. Refractory insulating coatings for metal. Quarterly report no. 2, Jan 1-Apr 1, 1947. (Rutgers Univ N. J. Ceramic Res Station Rept 4). Apr 1947. 10 p. Price: Mimeo-$0.50
The oxygen acetylene burner described in quarterly report No. 1 has been replaced by one of better design. This new oxygen-acetylene torch is illustrated and its functions described. Test of several primary coatings consisting of metallic oxides were made and results, conclusions and recommendations are given.

PB L 74305. RAU, WILHELM. The science of precious stones. (FIAT Microfilm Reel G 300, Frames not numbered). 6th ed., 1942. 180 f. Price: Microfilm-$2.75 - Enlargement Print-$18.00
The first part of this textbook deals with precious stones in general, their treatment, value, and value determination. The second part contains details regarding the mechanical, optical and electrical properties of individual precious stones including pearls. The synthesis of precious stones, cultivation of pearls and falsification of both are treated in a supplement. In German.

PB L 79506. ULLTZ, H. F. H. Refractory insulating coatings for metal. Interim report no. 1, Jan 1 - Feb 1, 1947. (Rutgers Univ N. J. Ceramic Res Station Rept 2). Feb 1947. 3 p. Price: Mimeo-$0.25
This is a very brief report covering progress made during one month of a research project on refractory coatings for metals. A brief outline of the torch and chamber apparatus is given and a schematic diagram is included.

PERSONNEL APTITUDE TESTING AND JOB TRAINING

PB L 74058. HAUPTAUSSCHUSS FÜR BERUFSERZIEHUNG UND BERUFSLENKUNG, BERLIN, GERMANY. Metal trade training. (FIAT Microfilm Reel BB 222, Frames 1-298) 1937. 298 f. Price: Microfilm-$3.75 - Enlargement print-$30.00
This reel, prepared by FIAT investigators in Germany, contains educational material for the vocational training of metal workers, tool makers, millers and lathe operators in the use of cutting and stamping machines. Instructions for measuring tolerances and the tools used are described. Theories are applied, evaluated and explained by drawings. The material on this reel originated with the former "Deutsche Arbeitsfront," the "Reichsluftfahrtministerium," and the "Loewe Gewerbeschule." In German.

PB L 74057. LEHRMITTELZENTRALE DER ARBEITSFRONT, BERLIN, GERMANY. Fundamental course of instruction for employees in the iron and metal industries. (FIAT Microfilm Reel BB 194, Frames 1-107) Feb 1944. 107 f. Price: Microfilm-$2.00 - Enlargement print-$11.00

Personnel Aptitude Testing (contd)

This is a 208-page book, entitled "Grundlehrgang für die Berufe der Eisen- und Metallindustrie," published by Lehrmittelzentrale der Deutschen Arbeitsfront, Verlagsgesellschaft m. b. H., Berlin. The course of instruction covers a period of 3-4 months, and is intended to serve as a vocational guide and enhance professional skill. Working directions, drawings, instruction sheets and directions for making evaluations are included. In the practical portion basic fundamentals are treated, e. g., measuring, tracing, filing, chiseling, sawing, drilling, thread cutting, spring winding, grinding, cutting, hammering, bending, riveting, soldering, forging and annealing. Checking and evaluation of the work done by the apprentices is carried out with a point system according to a plan. Safety considerations are stressed. In German.

PHOTOGRAPHIC AND OPTICAL GOODS (INCLUDING PHOTOGRAPHIC PROCESSING)

PB L 73133. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Calculations for objectives and optical systems. (FIAT Microfilm Reel I 13, Frames 4-1160) 1931. 1157 f. Price: Microfilm-$6.00 - Enlargement print-$116.00.

This FIAT microfilm reel consists of calculations, drawings and graphs for objectives and optical systems as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
4-132 PB L 73133	Objective f = 20 mm. 1:2.8 developed from f = 20 mm. 1:3.5. Calculation. n. d. In German.	$13.00
133-152 PB L 73133	Objective f = 25 mm. Drawings and calculation. n. d. In German.	2.00
153-184 PB L 73133	Microscope objective "Mikro 7" 62x, 1:0.85. Calculation. n.d. In German.	3.50
185-266 PB L 73133	Unidentified calculations. n.d. In German.	8.50
267-295 PB L 73133	Forms for entering data on objectives. n.d. In German.	3.00
296-470 PB L 73133	Data on infrared Tessars f = 50 cm, designated by serial numbers and camera numbers in which such tests as focal length, etc, were made. 1942. In German.	17.50
471-543 PB L 73133	Telescope system 1: 1.175 calculations and drawing. n.d. In German.	7.50
544-565 PB L 73133	Telescope system 1:2.0 f = 75.0 mm. Calculations, drawings and graphs. n.d. In German.	2.50
566-740 PB L 73133	Wide-angle objective 100°, f = 20 mm, 1:9.0 and 1:17.5. Calculation, drawings and graphs. 1931. In German.	17.50
741-916 PB L 73133	Wide-angle objective 100°, f = 35 mm, 1:3.5. Calculations. n. d. In German.	17.50
917-1035 PB L 73133	Wide-angle objective, 1:3.5, f = 25 mm. Calculations, drawings and graphs. n. d. In German.	12.00
1036-1160 PB L 73133	Objective 1:0.65, f = 1.0 for X-ray photographs. Calculations, drawings and graphs. 1936. In German.	2.50

PB L 73151. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Parts lists and detail drawings of electrical equipment for optical instruments. (FIAT Microfilm Reel I 31, Frames 941-1290) 1941-1943. 350 f. Price: Microfilm-$4.25 - Enlargement print-$35.00

This FIAT microfilm reel consists of parts lists and detail drawings of rheostats, fixed resistances, plugs and sockets, switches, lamps and accessories for electrical equipment used in and in connection with various unspecified optical instruments. In German.

PB L 73145. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Parts lists and drawings for cameras and other photographic equipment. (FIAT Microfilm Reel I-25, Frames 4662-5467) 1932-1939. 806 f. Price: Microfilm-$6.00 - Enlargement print-$81.00.

This FIAT microfilm reel consists of parts lists and drawings for miniature film cameras, range and view finders, enlargers, objectives and accessories. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
4470-4680 PB L 73145	Reproduction equipment with focusing screen adjustment. Part lists and drawings. 1938. In German.	$21.50
4681-4699 PB L 73145	Photo printing frame size 10 x 8 inch and 18 x 24 cm. Parts list and drawings. 1932. In German.	2.00
4700-4735 PB L 73145	Short distance range finder. 5.5 cm base. Parts list and drawings. 1935. In German.	4.00
4736-4753 PB L 73145	Universal panoramic tripod head. Parts list and drawings. 1934. In German.	2.00
4754-4811 PB L 73145	Accessories for objective f = 13.5 cm. Parts list and drawings. 1932. In German.	6.00
4812-4852 PB L 73145	Telescopic view finder for miniature film camera. Parts list and drawings. 1933. In German.	4.50
4853-4855 4893-4980 PB L 73145	Miniature film camera with retardation equipment. Drawings. 1933. In German.	9.50
4856-4892 PB L 73145	Auxiliary camera. Parts list and drawings. 1934. In German.	14.00
4981-5008 PB L 73145	Wide-angle view finder f = 3.5 cm. Parts list and drawings. 1933. In German.	3.00
5009-5027 PB L 73145	Reproduction stand. Parts list and drawings. 1933. In German.	2.00
5028-5175 PB L 73145	Objective 1 : 4.5 f = 20 cm. Parts list and drawings. 1937. In German.	15.00
5176-5290 PB L 73145	Range finder. 300 mm base. Parts list and drawings. 1933. In German.	11.50
5291-5311 PB L 73145	Hektor objective 1 : 4.5 f = 15.5 cm. Parts list and drawings. 1935. In German.	2.50
5312-5335 PB L 73145	Ring illumination for reproduction purposes. Parts list and drawings. 1933. In German.	2.50

5396-5396 PB L 73145	Screw type retardation equipment. Parts list and drawings. 1933. In German.	6.50
5397-5467 PB L 73145	Enlargement apparatus for 6½ x 9 cm. Parts list and drawings. 1939. In German.	7.50

PB L 73144. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Parts lists and drawings for cameras, enlargers, etc. (FIAT Microfilm Reel I 24, Frames 3604-4463) 1931-1941. 860 f. Price: Microfilm-$6.00 - Enlargement print-$86.00. This FIAT microfilm reel consists of parts lists and technical drawings for cameras, photoprinting equipment, projection apparatus and their accessories. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
3604-3626 PB L 73144	Film developing tank. Parts list and drawings. 1932. In German.	$ 2.50
3627-3637 PB L 73144	Tiltable view finder. Parts list and drawings. 1931. In German.	1.50
3638-3680 PB L 73144	Photoprinting frame for pictures 13x18 cm. Parts list and drawings. 1933. In German.	4.50
3681-3724 PB L 73144	Reading stand. Parts list and drawings. 1932. In German.	5.00
3725-3805 PB L 73144	Miniature film camera with automatic focusing. Parts list and drawings. 1931-1932. In German.	8.50
3806-3814 PB L 73144	Photoprinting apparatus for 5x5 cm diapositives. Parts list and drawings. 1932. In German.	1.50
3815-3837 PB L 73144	Equipment for life-size photography with Elmar objective f=5 cm. Parts list and drawings. 1931. In German.	2.50
3838-3851 PB L 73144	View-finder focusing arrangement with a loupe. Parts list and drawings. 1931. In German.	1.50
3852-3883 PB L 73144	Hektor objective 1:1.9 f=7.3 cm. Parts list and drawings. 1931. In German.	3.50
3884-3914 PB L 73144	Tiltable universal view finder with a diaphragm. Parts list and drawings. 1933. In German.	3.50
3915-3971 PB L 73144	Objective for miniature film camera, 1:6.3 f=10.5 cm. Parts list and drawings. 1932. In German.	6.00
3972-3998 PB L 73144	Focusing equipment for objective f=5 cm. Drawings. 1933. In German.	3.00
3999-4007 PB L 73144	Focusing equipment for objectives f=3.5 cm. Parts list and drawings. 1933. In German.	1.50
4008-4200 PB L 73144	Variable enlargement apparatus. Parts lists and drawings. 1939. In German.	19.50
4201-4207 PB L 73144	Angle computer for cameras with automatic focusing. Parts list and drawings. 1939. In German.	1.50
4208-4233 PB L 73144	Frame view finder. Parts list and drawings. 1936. In German.	3.00
4234-4385 PB L 73144	Miniature film camera for 10 m. films. Parts list and drawings. 1941. In German.	5.50
4386-4405 PB L 73144	Enlargement apparatus for pictures 40x50 cm. Parts list, drawings and photograph. 1938. In German.	1.50
4406-4438 PB L 73144	Photoprinting frame for size 30x40 cm. = 12x15 in. Parts list and drawings. 1932. In German.	3.50
4439-4463 PB L 73144	Reproduction apparatus for miniature film camera for 10 m. film. Parts list and drawings. 1940. In German.	2.50

PB L 73146. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Parts lists and drawings for cameras, objectives, enlargers and accessories. (FIAT Microfilm Reel I-26, Frames 5474-6447) 1934-1939. 974 f. Price: Microfilm-$6.00. Enlargement print-$97.50.
This FIAT microfilm reel consists of parts lists and technical drawings for enlargers, cameras, objectives and photographic accessories as listed below. Individual items will be avaflable as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. Many frames, especially those showing drawings, will not reproduce well and the last 383 frames are illegible.

Frames	Title	Price
5474-5485 PB L 73146	Table stand. Parts list and drawings. 1933. In German.	$1.50
5486-5500 PB L 73146	Large ball-and socket head. Parts list and drawings. 1936. In German.	1.50
5501-5502 5887-5904 PB L 73146	Variable enlarger 6½ x 9 cm. Parts list and drawing. 1934. In German.	2.00
5503-5629 PB L 73146	Film developing tank. Drawings. 1939. In German.	3.00
5630-5715 PB L 73146	Objective 1 : 5.0 f=40 cm. Parts list and drawings. 1936. In German.	9.00
5716-5802 PB L 73146	News camera, Leica Model III. Parts list and drawings. 1934. In German. Some frames may not reproduce well.	9.00
5803-5829 PB L 73146	Objective 1 : 2.2 f=9 cm. Parts list and drawings. 1934. In German. Some frames indistinct.	3.00
5830-5842 6110-6120 PB L 73146	Hektor objective f=13.5 cm for reflex camera. Parts list and drawings. 1934. In German. Many illegible frames.	2.50
5843-5886 PB L 73146	Auxiliary wedge for an automatic camera. Parts list and drawings. 1934. In German.	4.50
5905-5915 6052-6060 PB L 73146	Objective f=9 cm for universal reproduction apparatus. Parts list and drawing. 1935. In German. Many drawings indistinct.	2.00
5916-5926 PB L 73146	Summar objective 1 : 1.5 f=5 cm. Parts list and drawings. 1934. In German. Some frames will not reproduce well.	1.50
5927-5980 PB L 73146	Rapid winder. Parts list and drawings. 1938. In German. Indistict drawings.	5.50
5981-6005 PB L 73146	Short distance range finder. Drawings. 1938. In German. Will not reproduce well.	1.50

6006-6041. Objective 1 : 6.3 f=2.8 cm. Parts list and drawings. n.d. In German. 4.00
PB L 73146
Drawings illegible.

6042-6051 Stand with cassette for dispositive plates 5 x 5 cm. Parts list and drawings. 1934. In German. 1.50
PB L 73146
Some drawings indistinct.

6061-6095 Screw-operated retardation equipment. n.d. In German. 3.50
PB L 73146
Illegible.

6096-6109 Objective 1 : 1.9 f=7.3 cm. for universal reproduction apparatus. Parts list and illegible drawings. 1936. In German. 1.50
PB L 73146

6121-6164 Automatic release. Parts list and illegible drawings. n.d. In German. 4.50
PB L 73146

6165-6447 Illegible.
PB L 73146

PB L 73141. LEITZ, ERNST, G. M. B. H., WETZLAR, GERMANY. Parts lists and drawings for cameras, projectors, telescopes, microscopes, etc. (FIAT Microfilm Reel 1 21, Frames 1006-1898) 1928-1946. 893 f. Price: Microfilm-$6.00 - Enlargement print-$89.50.

This FIAT microfilm reel consists of parts lists and drawings for cameras and photographic accessories, microscopes, telescopes, projection apparatus, etc. 107 individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
1006 PB L 73141	Reading stand. Drawing. 1932. In German.	$ 1.50
1007-1008 PB L 73141	Photographic printing apparatus. Drawings. 1932. In German.	1.50
1009-1010 1044-1046 PB L 73141	Miniature film camera with automatic sharp focusing. Drawings. 1943. In German.	1.50
1011-1019 PB L 73141	Focusing arrangement for objectives f=5 cm. Parts list and drawings. 1943. In German.	1.50
1020 PB L 73141	Frame view finder. Drawing. n. d. In German.	1.50
1021-1023 PB L 73141	Miniature film camera for 10 meter film strips. Drawings. 1942. In German.	1.50
1024-1025 PB L 73141	Enlargement apparatus. Drawings. 1938. In German.	1.50
1026 PB L 73141	Auxiliary camera. Drawing. 1939. InGerman.	1.50
1027-1028 PB L 73141	Camera slide for reproduction exposures. Drawings. 1937. In German.	1.50
1029-1039 PB L 73141	Photoprinting frame for 10 x 8 in. or 18 x 24 cm. Drawing and parts list. 1935. In German.	1.50
1040-1043 PB L 73141	Wide-angle view finder. Parts list. 1939. In German.	1.50
1047-1049 PB L 73141	Range finder for short distances, base 3.5 cm. Parts list. 1942. In German.	1.50
1050-1055 1077-1080	Variable enlargement apparatus for 6.5 x 9 cm. Drawings. 1938.	
1103-1121 PB L 73141	In German.	3.00
1066-1067 PB L 73141	Range finder, 300 mm base. Drawings. 1932. In German. May not reproduce well.	1.50
1068-1075 PB L 73141	Film development tank. Parts list. 1937. In German.	1.50
1076 PB L 73141	Objective 1:5 f=40 cm. Drawing. 1936. In German.	1.50
1081-1083 PB L 73141	View camera. Drawings. 1934. In German.	1.50
1084-1085 PB L 73141	Tiltable frame for photographic printing apparatus. Drawings. 1936. In German.	1.50
1086-1089 PB L 73141	Daylight film development tank. Drawings. 1935. In German.	1.50
1090 PB L 73141	Stand with cassette for 5 x 5 cm dispositive plates. Drawing. 1934. In German.	1.50
1091 PB L 73141	Objective 1:6, 3 f=2.8 cm. Drawing. 1934. In German.	1.50
1092-1100 PB L 73141	Spring winding for Leica camera. Parts list. 1937. In German.	1.50
1101-1102 PB L 73141	Photoprinting frame for 7.5 x 10.5 cm. Drawing. 1933. In German.	1.50
1122 PB L 73141	Objective 1:1.5 f=5 cm. Drawing. 1937. In German.	1.50
1123-1131 PB L 73141	Reproduction and enlargement apparatus with automatic focusing. Drawings. 1935. In German.	1.50
1132 PB L 73141	Lever release. Parts list. n.d. In German.	1.50
1133-1135 PB L 73141	Developing vessel. Drawings. 1935. In German.	1.50
1136-1140 PB L 73141	Camera runners for reproduction apparatus. Drawings. 1936. In German.	1.50
1141-1153 1255-1268 PB L 73141	Miniature film camera Model 1. Parts list and drawings. 1937. In German.	3.00
1154-1160 PB L 73141	Objective 60 cm. Parts list and drawings. 1937. In German.	1.50
1161-1165 1170-1171 PB L 73141	"Eldia" photoprinting apparatus. Drawings and parts list. 1938. In German.	1.50
1166-1169 PB L 73141	Miniature film camera with automatic release. Parts list. 1937. In German.	1.50
1172-1210 1212-1215 PB L 73141	Enlargement apparatus Focomat 1a. Parts list and drawings. 1938. In German.	4.50
1211 PB L 73141	Frame view finder for objective f=20 cm. Drawing. 1936. In German.	1.50
1216-1238 PB L 73141	Automatic winder for camera for 10 m film strips. Parts list and drawings. 1941. In German.	2.50
1239-1245 PB L 73141	Illumination box 13 x 18 cm. Parts list and drawings. 1937. In German.	1.50
1246-1254 PB L 73141	Camera for stereoscopic pictures. Parts list and drawings. 1940. In German.	1.50
1269-1270 PB L 73141	Polarization diaphragm. Drawing and parts list. 1937. In German.	1.50

1271-1274 PB L 73141 — Adjustable negative holder for Focomat enlargement apparatus. Parts list and drawings. 1937. In German. 1.50

1275 PB L 73141 — Loop holder. Parts list. 1937. In German. 1.50

1276-1281 PB L 73141 — Illumination boxes 13 x 18 cm, 30 x 40 cm and 24 x 30 cm. Parts lists and drawing. 1939. In German. 1.50

1282-1294 PB L 73141 — Storage cases for photographic paper sizes 2.5 x 3.5 in, 4 x 6 in, 6.5 x 9 in. Parts lists and drawings. 1939. In German. 1.50

1295-1310 PB L 73141 — Reflex camera for microphotography. Drawings and parts list. 1940. In German. 2.00

1311-1312 PB L 73141 — "Askania" motion-picture camera. Parts list. 1941. In German. 1.50

1313-1322 PB L 73141 — Summitar objective 1:2 f=5 cm. Parts list and drawings. 1939. In German. 1.50

1323-1335 PB L 73141 — Enlargement apparatus. Focomat 1b. Parts list. 1935. In German. 1.50

1336-1361 PB L 73141 — Folding reproduction apparatus. Drawings and parts list. 1938. In German. 3.00

1362-1367 PB L 73141 — Leica reflex camera on large stand. Parts list and drawing. 1938. In German. 1.50

1368-1370 PB L 73141 — Summar objective 1:0,85 f=7.5 cm. Drawings. 1938. In German. 1.50

1371-1372 PB L 73141 — Loupe for film examination. Parts list. 1941. In German. 1.50

1373-1376 PB L 73141 — Illumination box 40 x 50 cm. Parts list. 1938. In German. 1.50

1377-1383 PB L 73141 — Filter storage case. Parts list. 1938. In German. 1.50

1384-1385 PB L 73141 — Diving bell for Leica for 10 m film strips. Parts list. 1940. In German. 1.50

1386-1391 PB L 73141 — Auxiliary camera for films and plates sizes 5 x 5 cm and 4 1/2 x 6 cm. Parts list. n. d. In German. 1.50

1392-1400 PB L 73141 — Spring operated film winding device for Leica camera. Parts list. 1938. In German. 1.50

1401-1407 PB L 73141 — Objective 1: 3,5 f=3,5 cm. Parts list and drawings. 1938. In German. 1.50

1408 PB L 73141 — Objective 1: 3,5 f=15 mm. Parts list. 1945. In German. 1.50

1409-1411 PB L 73141 — Glare prevention diaphragm for Xenon objective. Parts list. 1945. In German. 1.50

1412 PB L 73141 — Glare prevention diaphragm for Summitar objective. Parts list. 1945. In German. 1.50

1413 PB L 73141 — Polarization head for projection apparatus. Type VIIIa. Parts list. 1945. In German. 1.50

1414-1418 PB L 73141 — Stereoscopic prism mounting. Parts list and drawings. 1945. In German. 1.50

1419 PB L 73141 — Camera for pictures size 18 x 24 cm. Drawing. 1942. In German. 1.50

1420-1422 1429-1436 PB L 73141 — Sports view-finder 5 cm (dye-cast). Parts list and drawing. 1946. In German. 1.50

1423-1428 PB L 73141 — Infrared objective 1:0,85 f=7.5 cm. Parts list and drawings. 1941. In German. 1.50

1437-1446 PB L 73141 — Objective 1: 1.5 f=6.5 cm. Parts list and drawings. 1940. In German. 1.50

1447-1449 PB L 73141 — Sports view finder, 13.5 cm. Parts list and drawing. 1946. In German. 1.50

1450-1452 PB L 73141 — Sports view finder 7.3 cm. Parts list and drawing. 1946. In German. 1.50

1453-1472 PB L 73141 — Stereoscopic loupe. Parts list and drawings. 1942. In German. 2.00

1473-1474 PB L 73141 — Stereoscopic polarization attachment. Parts list. 1940. In German. 1.50

1475 PB L 73141 — Stereotelescopic view finder. Parts list. 1940. In German. 1.50

1476-1481 PB L 73141 — Stereoscopic prism head 1:2.5 f=3.5 cm. with filter. Parts list and drawings. 1940. In German. 1.50

1482-1484 PB L 73141 — Stereoscopic objective 1:2.5 f=3.5 cm. Parts list. 1940. In German. 1.50

1485-1490 PB L 73141 — Auxiliary device for Summitar objective. Parts list and drawings. 1939. In German. 1.50

1491-1497 PB L 73141 — Ettre ever-ready carrying case. Parts list and drawings. 1939. In German. 1.50

1498-1520 PB L 73141 — Telescope 15 x 90. Parts list and drawings. 1943. In German. 2.50

1521-1526 PB L 73141 — Precision measuring ocular. Parts list. 1941. In German. 1.50

1527-1528 PB L 73141 — Wide-angle ocular 90° f=26 mm. Parts list. 1944. In German. 1.50

1529-1530 PB L 73141 — Objective 1S. Parts list and drawing. 1939. In German. 1.50

1531 PB L 73141 — Objective 12S. Parts list. 1937. In German. 1.50

1532 PB L 73141 — Objective 14S. Parts list. 1937. In German. 1.50

1533-1542 PB L 73141 — Microtome for hard specimens. Parts list and drawings. 1946. In German. 1.50

1543-1545 PB L 73141 — Gauge for concrete comparator. Parts list and drawings. 1946. In German. 1.50

1546-1569 1652-1655 PB L 73141 — Workshop microscope. Parts list and drawings. 1938-1941. In German. 3.00

1570-1594 PB L 73141 — Measuring microscope. Parts list and drawings. 1942. In German. 2.50

1595-1603 PB L 73141 — Simple measuring microscope. Parts list and drawings. 1938. In German. 1.50

1604-1606 PB L 73141 — Projection stand. Parts list. n.d. In German. 1.50

1607-1617 PB L 73141 — Measuring microscope for use with tooling machines. Parts list and drawings. 1942. In German. 1.50

Frames	Title	Price
1618-1630 PB L 73141	Horizontal comparator. Parts list and drawings. 1938. In German.	1.50
1631-1632 PB L 73141	Simple goniometric ocular. Parts list. 1941. In German.	1.50
1633-1651 PB L 73141	Center punch. Parts list and drawings. 1943. In German.	2.00
1656-1669 1727-1736 PB L 73141	Profile projection and drawing apparatus with accessories. Parts lists and drawings. 1937. In German.	2.50
1670-1726 PB L 73141	Focusing screen projection apparatus. Parts list and drawings. 1942. In German.	6.00
1737-1752 PB L 73141	Eroscope. Parts list and drawings. 1937. In German.	2.00
1753-1754 PB L 73141	Arrangement for measuring cutting edges. Parts list. 1937. In German.	1.50
1755 PB L 73141	Alignment gauge. Parts list. 1941. In German.	1.50
1756-1764 PB L 73141	Simple projection equipment. Parts list and drawing. 1938. In German.	1.50
1765-1777 PB L 73141	Plane table 50 B. Parts list and drawings. 1938. In German.	1.50
1778-1802 PB L 73141	Bench for profile projection apparatus. Parts list and drawings. 1932. In German.	2.50
1803-1808 PB L 73141	Reflex optics. Parts list and drawings. 1943. In German.	1.50
1809-1815 PB L 73141	Accessories for projection microscope. Drawings. 1928. In German.	1.50
1816-1819 PB L 73141	Simple goniometer. Drawings. 1935. In German.	1.50
1820 PB L 73141	Device for measuring the thickness of layers. Parts list. 1937. In German.	1.50
1821-1823 PB L 73141	Opak-Ultropak combination. Drawings. 1931. In German.	1.50
1824 PB L 73141	Case for relief condensor. Drawing. 1935. In German.	1.50
1825-1833 PB L 73141	"Askania" microfilm motion-picture apparatus. Drawings. 1928. In German.	1.50
1834 PB L 73141	Diaphragm on stand. Drawing. 1930. In German.	1.50
1835-1886 1893-1902 PB L 73141	Universal differential dilatometer UDD and UDDA. Parts list and drawings. 1940. In German.	6.50
1887-1892 PB L 73141	Tyndall meter. Drawings. 1930. In German.	1.50
6454-6486 PB L 73147	Reproduction and enlargement apparatus. Parts list and drawings. 1937. In German.	$ 3.50
6487-6549 PB L 73147	Leitz-Xenon objective 1:1.5 f=5 cm. Parts list and drawings. 1935. In German.	6.50
6550-6564 PB L 73147	Sports view finders 7.5 cm, 10.5 cm and 13.5 cm. Parts lists and drawings. 1936. In German.	1.50
6565-6587 PB L 73147	Camera stand with accessories for reproduction photography. Parts list and drawings. 1935. In German.	2.50
6588-6600 PB L 73147	View finder for an automatic camera f=3.5 cm. Parts list and drawings. 1937. In German.	1.50
6601-6613 PB L 73147	Lever release. Parts list and drawings. 1939. In German.	1.50
6614-6824 PB L 73147	Enlargement apparatus 6 1/2 x 9 cm with automatic sharp focusing. Parts list and drawings. 1938. In German.	21.50
6825-6838 PB L 73147	Photoprinting apparatus with fixed frame stencil. Parts list and drawings. 1936. In German.	1.50
6839-6840 PB L 73147	Development tank. Parts list and sketch. 1936. In German.	1.50
6841-6887 PB L 73147	Camera sliding arrangement for reproduction purposes. Parts list and drawings. 1937. In German.	5.00
6888-6901 PB L 73147	Miniature film camera Model 1 (dye-cast). Drawings. 1937. In German.	1.50
6902-6922 PB L 73147	Frame view finder for objectives f=5 cm. Parts list and drawings. 1937. In German.	2.50
6923-7050 PB L 73147	Focomat 1a enlarger. Drawings. 1938. In German.	3.00
7051-7097 PB L 73147	Miniature film camera with automatic release. Drawings. 1939. In German.	4.00
7098-7164 PB L 73147	Objective f=60 cm. Drawings. 1937. In German.	7.00
7165-7279 PB L 73147	Automatic winding for 10 m. film Leica camera. Drawings. 1944. In German.	11.50
7280-7351 PB L 73147	Objective 1:1.5 f=8.5 cm. Drawings. 1937. In German.	7.50
7352-7367 PB L 73147	Polarization diaphragm. Drawings. 1937. In German.	2.00
7368-7399 PB L 73147	Illumination box 13 x 18 cm. Drawings. 1937. In German.	3.50
7400-7441 PB L 73147	Stereoscopic camera, objective 1: 3.5 f=3.5 cm. Drawings. 1937. In German.	4.50

PB L 73147. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Parts lists and drawings for enlargers, cameras, view finders and accessories. (FIAT Microfilm Reel I 27, Frames 6454-7441) 1935-1944. 988 f. Price: Microfilm-$6.00 - Enlargement print-$99.00.
This FIAT microfilm reel consists of parts lists and drawings for cameras, photographic enlargers, view finders and their accessories as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

PB L 73149. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Parts lists and drawings for lenses, goniometers, dilatometers etc. (FIAT Microfilm Reel I-29, Frames 8333-9044) 1929-1938. 712 f. Price: Microfilm-$6.00 - Enlargement print-$71.50.
This FIAT microfilm reel consists of parts lists and technical drawings for condensers, lenses, projection apparatus,

goniometers and other optical instruments, and accessories. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
8333-8363 PB L 73149	Relief condenser. Parts list and drawings. 1935. In German.	$3.50
8364-8371 PB L 73149	Objective 1 x for cylinder examination. Parts list and drawings. 1935. In German.	1.50
8372-8402 PB L 73149	Condenser with objective UO 1.5/L 110, UO 2/L 90, and UO 3/L 60. Parts lists and drawings. 1935. In German.	3.50
8403-8427 PB L 73149	Condenser for objective UO 13/ L 15 and UO 20/L 15. Parts list and drawings. 1935. In German.	2.50
8428-8431 PB L 73149	Optical work bench with a lamp for projectors. Parts list and drawing. 1939. In German.	1.50
8432-8567 PB L 73149	Projection apparatus. Parts lists and drawings. 1929. In German.	4.00
8568-8585 PB L 73149	Goniometer. Parts list and drawings. 1937. In German.	2.00
8586-8649 PB L 73149	Simple goniometer. Parts list and drawings. 1937. In German.	6.50
8650-8653 PB L 73149	Focusing device for focusing screen observation. Drawings. n.d. In German.	1.50
8654-8854 8956-8957 PB L 73149	Universal differential dilatometer UDD & UDDA. Temperature tables parts lists and drawings. 1931. In German.	20.50
8855-8868 8870-8955 8958-8959 PB L 73149	Simple dilatometer. Parts list and drawings. 1932-1935. In German.	10.50
8869 9015-9024 PB L 73149	Dilatometer calibration instrument. Drawings. 1935. In German.	1.50
8960-8992 PB L 73149	Electric furnace for dilatometers. Parts list and drawings. 1938. In German.	3.50
8993-9014 PB L 73149	Microprojection apparatus with 20 x 20 cm focusing screen. Parts list and drawings. 1930. In German.	2.50
9025-9044 PB L 73149	Projection equipment for Siebert, Hanau. Parts list and drawings. 1930. In German.	2.00

PB L 73140. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Parts lists and drawings for projection apparatus, microscopes, cameras, etc. (FIAT Microfilm Reel I 20, Frames 4-999) 1924-1942. 996 f. Price: Microfilm-$6.00 Enlargement print-$100.00.

This FIAT microfilm reel consists of parts lists and drawings for projection apparatus, microscopes, cameras, range and view finders and accessories for these instruments. 72 individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
4-13 PB L 73140	Horizontal diapositive projection and writing attachment. Drawings. 1937. In German.	$ 1.50
14-16 PB L 73140	Diapositive attachment. Drawings. 1934. In German.	1.50
17-18 PB L 73140	Vertical and horizontal diapositive attachment. Drawings. 1934. In German.	1.50
19-24 PB L 73140	Trichinoscope Type IX p. Drawings. 1932. In German.	1.50
25-29 PB L 73140	Test-tube attachment with reversing prism. Parts list. 1937. In German.	1.50
30-58 74-78 100-101 PB L 73140	Projection apparatus Type V h 1. Parts list and drawings. 1937. In German.	4.00
59-66 PB L 73140	Projection apparatus Type V x. Parts list. 1937. In German.	1.50
67-73 PB L 73140	Projection apparatus Type V p. Parts list. 1937. In German.	1.50
79-81 PB L 73140	Post-card projection exchanger. Drawings. 1931. In German.	1.50
82-102 PB L 73140	Projection apparatus Type V p 2. Drawings. 1934. In German.	2.50
103-113 PB L 73140	Diapositive projection apparatus Type IV i. Parts list. 1939. In German.	1.50
114-166 PB L 73140	Projection apparatus type III M 2 and Type III M3. Parts lists. n.d. In German. May not reproduce well.	5.50
167-182 PB L 73140	Projection apparatus Type III. Parts list. 1940. In German.	2.00
183-190 PB L 73140	Projection apparatus. Type III a. 1940. In German.	1.50
191 PB L 73140	Illegible.	
192-194 PB L 73140	Projection apparatus Type III L. Drawings. n. d. In German. May not reproduce well.	1.50
195-206 PB L 73140	Simple horizontal slide projector. Drawings. n. d. In German.	1.50
207-218 PB L 73140	Projection apparatus Type IV r. Drawings. 1934. In German.	1.50
219-223 PB L 73140	Workshop control projector Type XIV d. Parts list. 1941. In German.	1.50
224-227 PB L 73140	Viewer for projectors Type VIII s and VIII e. Parts lists. 1938. In German. May not reproduce well.	1.50
228-246 PB L 73140	X-ray "Diagnostor". Parts list and drawings. 1939. In German. Indistinct.	2.00
247-249 PB L 73140	Stereoprojection attachment. Parts list and drawing. 1940. In German.	1.50
250-269 PB L 73140	Microscope with a tiltable tube. Drawings. 1938. In German.	2.00
270-272 PB L 73140	Opak illuminator with accessories. Drawings. 1923. In German.	1.50

		Price
273-276 PB L 73140	Accessories for central microscope stand 1924/1929. Drawings. 1928. In German.	1.50
277-278 PB L 73140	Large hand press. Drawings. 1936. In German.	1.50
279-407 PB L 73140	Large metallographic microscope Epiphot model 1938. Parts lists and drawings. 1937-1939. In German.	14.00
408-412 PB L 73140	Prism surface testing apparatus. Parts list and drawing. 1940. In German.	1.50
413-421 PB L 73140	Optical bench with tilting arrangement. Parts list and drawings. 1937. In German.	1.50
422-442 PB L 73140	Camera 18x18 cm for metallographic microscope MM 1938. Parts list and drawings. 1939. In German.	2.50
443-547 PB L 73140	Accessories for metallographic microscope MM 1939. Parts lists and drawings. 1939-1940. In German.	10.50
548-549 PB L 73140	Microscopic tensilestrength testing equipment. Parts list. 1939. In German.	1.50
550-557 PB L 73140	Surface testing equipment. Parts list and drawings. 1942. In German.	1.50
558-572 PB L 73140	Opak illuminator for Ortholux projectors. Parts list and drawings. 1940. In German.	1.50
573 PB L 73140	Leica reflex camera for metallographic microscope MM 1940. Parts list. In German.	1.50
574-575 PB L 73140	Projector objectives I and II, f = 75mm and 70 mm respectively. Parts lists. 1939. In German.	1.50
576-578 PB L 73140	Holder for a ring illumination with horizontal displacements. Parts list and drawings. 1939. In German.	1.50
579-585 PB L 73140	Projection and drawing apparatus. Drawings. 1922. In German.	1.50
586-593 PB L 73140	Monochromator with great light-transmitting power. Drawings. n. d. In German. Indistinct.	1.50
594-595 PB L 73140	Microscope with a rotary filter changer. Drawings. 1940. In German.	1.50
596-748 758-794 PB L 73140	Leifo color mixing equipment and other Leifo accessories. Drawings and parts lists. 1941. In German.	9.00
749 PB L 73140	Hemoglobinometer. Drawings. 1927. In German.	1.50
750-754 PB L 73140	Colorimeter. Drawings. 1927. In German.	1.50
755-757 PB L 73140	Test glass comparison spectroscope. Drawings. 1941. In German.	1.50
795 PB L 73140	Blood counting cell according to Metz. Parts list. 1938. In German.	1.50
796-832 PB L 73140	Platinizing equipment. Drawings and parts list. 1938-1939. In German.	4.00
833-834 PB L 73140	Kinesimeter ("Hemikinesimeter"). Drawings. 1927. In German.	1.50
835 PB L 73140	Equipment for eardrum examination. Drawing. 1937. In German.	1.50
836-864 PB L 73140	Polarimeters A, B and C with equipment and lamps. Parts lists and drawings. n. d. In German.	3.00
865-869 PB L 73140	100 watt microscope lamp. Parts lists and drawings. 1941. In German.	1.50
870-871 PB L 73140	Table lamp with centering arrangement. Parts list and drawing. 1941. In German.	1.50
872-888 930-931 941 PB L 73140	6 V 5 amp. lamp. Parts list and drawings. 1937. In German.	2.00
889-896 932-936 PB L 73140	Table arc-lamp with variable illumination. Parts list. 1940. In German.	1.50
897-898 937 PB L 73140	Spherical table lamp with a columnar stand. Parts list. 1941. In German.	1.50
899-900 PB L 73140	"Mignon" lamp with a triple joint. Parts list. 1941. In German.	1.50
901-909 913 926-929 PB L 73140	"Liliput" arc lamp. Drawings. 1928. In German.	1.50
910 PB L 73140	Luminescent arc lamp. Drawing. 1941. In German.	1.50
911-912 PB L 73140	Opal ring illumination for microscopy. Drawings. 1930. In German.	1.50
914 PB L 73140	Microscope lamp with two-way displacement. Drawing. 1930. In German.	1.50
915-924 PB L 73140	Arc lamp for Ultropak. Drawings. 1932. In German.	1.50
925 PB L 73140	Variable illumination equipment with an instantaneous shutter. Drawing. 1933. In German.	1.50
938-940 PB L 73140	Sodium lamp. Parts lists. Date indistinct. In German.	1.50
942 PB L 73140	Special Leitz lamp for 12 v 100 watt. Parts list. 1940. In German.	1.50
943 PB L 73140	Illumination lenses. A list. 1939. In German.	1.50
944-947 PB L 73140	6 V 5 amp. lamp on a rider. Drawings and parts list. 1939. In German.	1.50
948-950 PB L 73140	Short-range finder. Parts list. 1942. In German.	1.50
951-958 979-992 PB L 73140	Miniature film camera. Drawings and parts list. 1948. In German.	2.50
959-960 PB L 73140	Range finder with a 40 cm base. Drawings. 1925. In German.	1.50
961-970 PB L 73140	Compur camera. Parts list and drawings. 1938. In German.	1.50
971-977 PB L 73140	Enlargement apparatus for Leica camera. Drawings. 1927. In German.	1.50
978 PB L 73140	Panoramic tripod head. Parts list. n. d. In German.	1.50

993-994 PB L 73140	Variable enlarger. Drawing. 1937. In German.	1.50
996-999 PB L 73140	Ever-ready carrying case. Parts list and drawings. 1937. In German.	1.50

PB L 74151. STENGER, E. AND STAUDE, H., eds. Progress of photography, volume 3. (FIAT Microfilm Reel OC 204, Frames 1-187) 1944. 187 f. Price: Microfilm-$2.75 - Enlargement print-$19.00.
This reel prepared by FIAT investigators in Germany consists of various articles from vol. III of the above book, published by "Akademische Verlagsgesellschaft Becker-Erlet K. G., Leipzig" 1944. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $2.75. Please include PB and frame numbers when ordering individual items. In German. These items will not reproduce well.

Frames	Title	Price
1-43 PB L 74151	The latent picture. By Walter Meidinger. In German.	$ 4.50
43-63 PB L 74151	Granulation and resolving capacity. By Helmuth Frieser. In German.	2.50
63-96 PB L 74151	Physical chemistry of sensitizing. By Helmuth Frieser. In German.	3.50
97-119 PB L 74151	The subtractive multi-layer process of color photography. By Wilhelm Schneider and Richard Sperling. In German.	2.50
119-129 PB L 74151	Photographic papers (1938-1941). By Edith Weide. In German.	1.50
129-141 PB L 74151	Photographic action of corpuscular rays. By Walter Meidinger. In German.	1.50
141-152 PB L 74151	Diazo type process. By Maximillian P. Schmidt. In German.	1.50
152-158 PB L 74151	Optics for photography. By Karl Leistner. In German.	1.50
158-187 PB L 74151	Stationary projector. By Helmuth Schering. In German.	3.00

PB L 17552-S. MOHN, H. and RUTHARDT, K. Report on the manufacture of periscopes from optical quartz glass. 1945. (Exhibit #7, Supp to FIAT Final Report 536, PB 17552). Oct 1945. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a supplement to the report "Fused quartz manufacture in Germany" by Gross (PB 17552 on page 1204 of volume 1 of the Bibliography) The present report describes the individual steps in the manufacture of periscopes, (1) selection and preparation of the quartz crystals, (2) preparation of the raw materials for optical quartz glass, (3) forming and treatment of the molten raw materials, and (4) fusing the processed glass plates. In German.

PB L 79559. SCHNEIDER, WILHELM. The Agfacolor process. (FIAT Final Rept 976). n. d. 169 p. Price: Hmeo-$4.25
This report gives detailed information on color photography and especially on the Agfacolor process. It was written not only for scientists and experts, but will be of value to anyone interested in color photography. During the past ten years, the I.G. Farbenindustrie A. G. in Germany has elaborated considerably on the Agfacolor process. They have proved very successful in producing a relatively simple and efficient method for making natural color photographs. Appendix 1. Bibliography, Appendix 2. List of 85 drawings, diagrams and photographs. In addition to this report several other publications are available on this subject of a more highly technical nature. They are FIAT Final Reports Nos. 721, 943 and 977 (PB 15476; vol. 1, p. 953), (PB 78248; vol. 7, p. 337) and (PB 81274; vol. 7, p. 215) and five microfilm reels which appear in vol. 6, p. 434 of this Bibliography.

PHYSICS

General

PB L 82072. U. S. OCCUPATION FORCES IN GERMANY. WEATHER SERVICE, BAD KISSINGEN, GERMANY. Publications in general physics and meteorology. (FIAT Microfilm Reel Y 22, Frames 1453-2189) 1936-1943. 737 f. Price: Microfilm-$7.00 - Enlargement print-$75.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $7.00. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
	Changes in the bases of natural sciences. Three lectures given by Werner Heisenberg, published by S. Hirzel, Leipzig, 1936.	
1453-1467 PB L 82072	Changes in the bases of the exact natural sciences. In German.	$3.00
1467-1476 PB L 82072	History of the physical phenomena of nature. In German.	2.00
1477-1486 PB L 82072	Question of principle in modern physics. In German.	2.00
1487-1873 PB L 82072	Textbook of theoretical physics. By G. Joos. 1943. In German. Fifth edition, published by Akademische Verlagsgesellschaft Becker & Erler Kom. Ges., Leipzig.	40.00
1874-1950 PB L 82072	Problems of cosmic physics. Edited by Christian Jensen. Vol. XIX. History of the earth and cosmogony. By Kurt Himpel. 1940. In German. Published by "Akademische Verlagsgesellschaft m.b.H., Leipzig.	9.00

Manual for aeronautical meteorology, edited by R. Habermehl, published by Gebr. Radetski, Berlin, 1942. Vol. 1-3.

1951-2034 PB L 82072	General meteorology. Vol. 1. In German.	10.00
2035-2122 PB L 82072	Maritime meteorology. Vol. 2. In German.	10.00
2123-2189 PB L 82072	Meteorological measuring devices. Vol. 3. In German.	8.00

PB L 39595. WEST, W. A. Dynamics of plastic deformation. Fifth partial report. (Watertown Arsenal Lab Rept 880/1-4) Jul 1945. 31 p. Price: Microfilm-$1.00 Photostat-$3.00

PRINTING, PUBLISHING, AND ALLIED INDUSTRIES

* PB L 78219. FALKNER, M. F. L. and HISLOP, WILLIAM B. Printing process used by the Wehrmacht. (BIOS Final Rept 568, Item 31) Mar 1947. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

Printing (contd)

This report describes in detail a new printing process used during the war by the "Wehrmacht" for the rapid distribution of reproductions of air-survey photographs etc. The following features are claimed: Speed from receipt of picture to start of printing, 1½ hour to 2 hours; No make-ready; Usable on letterpress, litho, and aniline printing machines; May be printed with good results on stock of newsprint order; and only very light impression required.

* PB L 79448. KENNEDY, A. J. A. Investigation of German printing ink industry. (BIOS Final Rept 1274, Item 22) Jul 1946. 29 p. Price: Microfilm-$1.00 Photostat-$2.00

Seven factories were investigated. To avoid lengthy and unnecessary repetition, the notes on Messrs. Hostmann Steinberg have been given at greatest length and similar items on the other firms have been dealt with very briefly, except where their practice differed widely from that in the larger works. Some typical formulations are included.

PB L 81021. DIE REICHSMESSE. New cylinder presses for newspapers. 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

This document contains photographs of three types of newspaper presses manufactured by Vogtländische Maschinenfabrik A.G., and a book printing machine manufactured by Gebr. Brehmer with brief descriptions. In French. This is a reprint from "Die Reichsmesse" F1 (Techn.) 1944.

*PB L 80360. VOET, ANDRIES. The printing ink industry of Germany. (FIAT Final Rept 1159). Jun 1947. 19 p. Price: Mimeo-$0.50

Among the developments of interest to the American inkmakers are the following: 1. water-based gramure inks, 2. water-based aniline inks, 3. method of applying sigmented aniline inks, and 4. satisfactory offset and letter press inks virtually without drying oils. A number of examples of printing inks of the offset and letter press type are given, taken from the files of different manufacturers. In each case the representative varnishes are included at end.

TEXTILES AND TEXTILE PRODUCTS

PB L 70419. I. G. FARBENINDUSTRIE A. G., BOBINGEN, GERMANY. Chemical research reports. (FIAT Microfilm Reel E 16. Frames 1-165). 1941-1944. 165 f. Price: Microfilm-$2.50 - Enlargement print-$16.50

This FIAT microfilm reel consists of items dealing with research on synthetic fibers. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $2.50. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
1-5 7 PB L 70419	Saponification of "Perlon" fibers. By Hertlein. 1944. In German.	$1.50
6 PB L 70419	Preparation of "Perlon" fibers. By Gusmann. 1944. In German. (Poorly legible).	1.50
7 PB L 70419	Same as 1-5.	
8-26 PB L 70419	"Perlon" fibers. 1943. In German.	2.00
27-40 PB L 70419	Melt-spinning of polyurethane. By Kleine. 1943. In German.	1.50
41-44 PB L 70419	Process for cold stretching of polyamide threads and fibers with adjusted tension. 1941. In German.	1.50
45-64 PB L 70419	Analytical methods for the testing of "Perlon." In German. (Several frames are poorly legible).	2.00
65-141 PB L 70419	Report in the field of polyamides. By Schlack. n. g. In German. (Legibility very poor).	8.00
142-148 PB L 70419	Polyamides (melting curves for the styrene, diphenyloxide-"Mirolin"). By Werniger. 1944. In German.	1.50
149-165 PB L 70419	"Perlon" report. 1942. In German. (Mostly illegible).	2.00

PB L 70419-S. I. G. FARBENINDUSTRIE A. G., BOBINGEN, GERMANY. Chemical research reports. (FIAT Microfilm Reel E 16, Frames 1-165, abstract cards). 1941-1944. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00

These are abstracts of the items on reel E 16 (PB 70419). They were prepared by FIAT abstracters in Germany.

*PB L 2335-S. PERKERSON, FRED S. Survey of German coated fabrics industry. (Supplement 1 to Survey of the coated fabrics industry of Germany, by DeForrest Lott and William D. Hedger, PB 2335). (FIAT Final Rept 464, Supp 1). Feb 1947. 11 p. Price: Mimeo-$0.50

Drawings and photographs of the Siemens-Schuckert oilcloth plant, production figures, and operating temperatures are given. Responsible personnel of this plant contradict several figures given in FIAT Final Report No. 464.

PB L 73937. VISCOSE making machinery in Germany. (FIAT Microfilm Reel A 72, Frames 1-92). 92 f. 1936-1946. Price: Microfilm-$1.75 - Enlargement Print-$9.50

This reel is a microfilm supplement of FIAT Final Report 647, entitled "Viscose Making in Germany," consisting of views and detail drawings from "Vereinigte Glanzstoff Fabriken, Oberburg-W. Kalle & Co., Wiesbaden and I. G. Farbenindustrie, Wolfen - relating to cellulose-viscose production, e.g. machinery and installations for cellulose feeding and tearing, for alkalisation, filters for liquors and for removal of liquors, conveyors, high pressure presses, rotary drums, ripening installations, passing centrifuges, and viscose crushers and mills. A drawing index with text in English is included. A number of frames will not reproduce well.

TRANSPORTATION EQUIPMENT

AERONAUTICS

PB L 23833-A. U. S. AERONAUTICAL BOARD. Bulletins: contractor service (for air-frames, engines, and accessories). (Army-Navy Aeronautical Specification AN-B-9b-Amendment) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21253-R. U. S. AERONAUTICAL BOARD. Cement; rubber. (Army-Navy Aeronautical Specification AN-C-54, rev.) Jun 1946. 13 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21325-A. U. S. AERONAUTICAL BOARD. Cylinders; hydraulic actuating. (Army-Navy Aeronautical Specification AN-C-66c, Amendment) Aug 1946. 4 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 80796. U. S. AERONAUTICAL BOARD. Compound; engine cleaning (cresol base). (Army-Navy Aeronautical Specification AN-C-163). Nov 1946. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 78646. U. S. AERONAUTICAL BOARD. Dope; cellulose-acetate-butyrate, clear. (Army-Navy Aeronautical Specification AN-D-1a). Mar 1947. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 34906-A. U. S. AERONAUTICAL BOARD. Drawings, tool lists, and sample tools for aeronautical and associated equipment, (with amendment no. 1, May 1947). (Army-Navy Aeronautical Specification AN-D-17). Jan 1946. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 21353-A. U. S. AERONAUTICAL BOARD. Engines; preparation for storage of aircraft. (Army-Navy Aeronautical Specification AN-E-11, Amendment) Aug 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 28870-R. U. S. AERONAUTICAL BOARD. Fuel; grade 73 aircraft-engine. (Army-Navy Aeronautical Specification AN-F-23, rev.) Jun 1946. 9 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21376-A. U. S. AERONAUTICAL BOARD. Fittings; pressure-grip lubricator. (Army-Navy Aeronautical Specification AN-F-38-Amendment) Jul 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 34909-A2. U. S. AERONAUTICAL BOARD. Handbooks; overhaul instruction (for aircraft engines). (Army-Navy Aeronautical Specification AN-H-10-Amendment 2) Aug 1946. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 34907-A3. U. S. AERONAUTICAL BOARD. Handbooks; overhaul instruction (for aircraft accessories, aircraft engine accessories and related equipment). (Army-Navy Aeronautical Specification AN-H-12-Amendment 3) Jul 1946. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 21418-A2. U. S. AERONAUTICAL BOARD. Hose; low pressure flexible. (Army-Navy Aeronautical Specification AN-H-29a-Amendment 2) Aug 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 34915-A. U. S. AERONAUTICAL BOARD. Insignia and markings for search and rescue aircraft design requirements for. (Army-Navy Aeronautical Specification AN-I-38a) Oct 1945. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Supersedes PB 34915.

PB L 21480-R. U. S. AERONAUTICAL BOARD. Lamp assembly; 24 inch rigid drum type rotating beacon. (Army-Navy Aeronautical Specification AN-L-4, rev.) May 1946. 14 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21492-A2. U. S. AERONAUTICAL BOARD. Light assemblies; electrically retractable landing. (Army-Navy Aeronautical Specification AN-L-11a-Amendment 2) Jul 1946. 3 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21531-A. U. S. AERONAUTICAL BOARD. Nuts; aircraft. (Army-Navy Aeronautical Specification AN-N-2a-Amendment) May 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21533-A2. U. S. AERONAUTICAL BOARD. Nuts; self locking. (Army-Navy Aeronautical Specification AN-N-5a-Amendment 2) May 1946. 4 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21598-A. U. S. AERONAUTICAL BOARD. Propellers; installation model specification (instruction for preparation). (Army-Navy Aeronautical Specification AN-P-23-Amendment) Oct 1946. 3 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21564-A3. U. S. AERONAUTICAL BOARD. Plates; information and identification. (Army-Navy Aeronautical Specification AN-P-38-Amendment 3) Jul 1946. 3 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21566-A2. U. S. AERONAUTICAL BOARD. Plating; cadmium. (Army-Navy Aeronautical Specification AN-P-61-Amendment 2) Aug 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21571-A. U. S. AERONAUTICAL BOARD. Plywood; container. (Army-Navy Aeronautical Specification AN-P-72-Amendment) Jul 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21623-R. U. S. AERONAUTICAL BOARD. Regulators: generator voltage. (Army-Navy Aeronautical Specification AN-R-1, rev.) Jan 1943. 15 p. Price: Microfilm-50¢ - Photostat-$1.00
Supersedes PB 21623.

PB L 21631-A4. U. S. AERONAUTICAL BOARD. Rivets: aluminum and aluminum alloy. (Army-Navy Aeronautical Specification AN-R-19-Amendment 4) Aug 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21647-R. U. S. AERONAUTICAL BOARD. Shackles: cable. (Army-Navy Aeronautical Specification AN-S-23a, rev.) Aug 1946. 6 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21661-R. U. S. AERONAUTICAL BOARD. Starters: aircraft inertia, general specification for. (Army-Navy Aeronautical Specification AN-S-38, rev.) May 1946. 12 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21697-R. U. S. AERONAUTICAL BOARD. Switches: generator control relay (differential). (Army-Navy Aeronautical Specification AN-S-42, rev.) Jul 1946. 13 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21663-R. U. S. AERONAUTICAL BOARD. Starters: direct cranking. (Army-Navy Aeronautical Specification AN-S-54, rev.) May 1946. 11 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21724-A4. U. S. AERONAUTICAL BOARD. Thinners: toluene substitute. (Army-Navy Aeronautical Specification AN-T-8b-Amendment 4) Jun 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21719-A. U. S. AERONAUTICAL BOARD. Thimbles: wire-cable. (Army-Navy Aeronautical Specification AN-T-26a-Amendment) Jul 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21720-A2. U. S. AERONAUTICAL BOARD. Thinners: cellulose acetate butyrate dope. (Army-Navy Aeronautical Specification AN-T-27-Amendment 2) n. d. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21757-R. U. S. AERONAUTICAL BOARD. Tubing: (.27 to .33 carbon chrome-nickel-molybdenum steel welded). (Army-Navy Aeronautical Specification AN-T-33, rev.) Aug 1946. 7 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21702-A. U. S. AERONAUTICAL BOARD. Tape: adhesive sealing (rubber and cork composition). (Army-Navy Aeronautical Specification AN-T-84-Amendment) Oct 1946. 3 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21722-A7. U. S. AERONAUTICAL BOARD. Thinners: cellulose-nitrate-dope-and-lacquer. (Army-Navy Aeronautical Specification AN-TT-T-256-Amendment 7) Jun 1946. 2 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21730-A. U. S. AERONAUTICAL BOARD. Titanium oxide, chalk-resisting, dry (pigment). (Army-Navy Aeronautical Specification AN-TT-T-436a-Amendment) Sep 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21779-A. U. S. AERONAUTICAL BOARD. Valves: hydraulic check. (Army-Navy Aeronautical Specification AN-V-5c-Amendment) Sep 1946. 4 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21791-R. U. S. AERONAUTICAL BOARD. Valves: oil dilution and separately mounted priming solenoid. (Army-Navy Aeronautical Specification AN-V-16a, rev.) May 1946. 8 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21773-A. U. S. AERONAUTICAL BOARD. Valves: air pump safety. (Army-Navy Aeronautical Specification AN-V-20-Amendment) May 1946. 3 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21774-A2. U. S. AERONAUTICAL BOARD. Valves: air pump suction relief. (Army-Navy Aeronautical Specification AN-V-21-Amendment 2) May 1946. 5 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21793-A2. U. S. AERONAUTICAL BOARD. Valves: vacuum restricter. (Army-Navy Aeronautical Specification AN-V-24-Amendment 2) Jun 1946. 3 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 21375-A6. U. S. AERONAUTICAL BOARD. Fittings: fluid connection. (Army-Navy Aeronautical Specification AN-WW-P-366a-Amendment 6) Jul 1946. 4 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 25911-R. U. S. AERONAUTICAL BOARD. Bearing - Intermediate duty ball (deep groove, composition seal). (Army-Navy Aeronautical Standard Drawing AN203, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

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PB L 25912-R. U. S. AERONAUTICAL BOARD. Bearing - heavy duty double row ball (deep groove, composition seal). (Army-Navy Aeronautical Standard Drawing AN 205, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 25917-R. U. S. AERONAUTICAL BOARD. Bearing - heavy duty ball (deep groove, composition seal). (Army-Navy Aeronautical Standard Drawing AN212, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 25918-R. U. S. AERONAUTICAL BOARD. Bearing - extra heavy duty ball (deep groove, composition seal). (Army-Navy Aeronautical Standard Drawing AN213-1, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 25930-R. U. S. AERONAUTICAL BOARD. Pin - hinge. (Army-Navy Aeronautical Standard Drawing AN253, rev.) Sep 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26092-R. U. S. AERONAUTICAL BOARD. Gasket-flared tube, Universal fitting. (Army-Navy Aeronautical Standard Drawing AN 902-5, rev.) Sep 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26100-R. U. S. AERONAUTICAL BOARD. Elbow - internal and external pipe thread 90°. (Army-Navy Aeronautical Standard Drawing AN 914-3, rev.) May 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26131-R. U. S. AERONAUTICAL BOARD. Transformer - series multiple (Subway - with detachable couplings). (Army-Navy Aeronautical Standard Drawing AN 2516, rev.) May 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26177-R. U. S. AERONAUTICAL BOARD. Switch-generator control relay (differential). (For basic report see PB 26177, vol. 3, p. 593). (Army-Navy Aeronautical Standard Drawing AN 3025, rev.). Feb 1947. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 26177-R3. U. S. AERONAUTICAL BOARD. Switch-generator control relay (differential). (Army-Navy Aeronautical Standard Drawing AN 3025-3) Feb 1947. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 26191-R. U. S. AERONAUTICAL BOARD. Cover - circular formation light. (Army-Navy Aeronautical Standard Drawing AN 3040-1, rev.) Jun 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26236-R. U. S. AERONAUTICAL BOARD. Light assembly - electrically retractable landing. (Army-Navy Aeronautical Standard Drawing AN3095-3, rev.) Jul 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26319-R2. U. S. AERONAUTICAL BOARD. Switch - two engine ignition. (Army-Navy Aeronautical Standard Drawing AN 3213-1, rev. 2) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26320-R2. U. S. AERONAUTICAL BOARD. Switch - four engine ignition. (Army-Navy Aeronautical Standard Drawing AN 3214-1, rev. 2) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26430-R. U. S. AERONAUTICAL BOARD. Adapter - fuel or oil tank filler cap raised 3 inch I. D. (Army-Navy Aeronautical Standard Drawing AN 4123, rev.) Sep 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26477-R. U. S. AERONAUTICAL BOARD. Resistor - adjustable thermocouple lead. (Army-Navy Aeronautical Standard Drawing AN 5535, rev.) Jun 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26569-R. U. S. AERONAUTICAL BOARD. Cylinder - nonshatterable CO_2. (Army-Navy Aeronautical Standard Drawing AN 6025-1, rev.) Jul 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26608-R. U. S. AERONAUTICAL BOARD. Fittings - Hydraulic accumulator air pressure gage. (Army-Navy Aeronautical Standard Drawing AN 6218, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26621-R. U. S. AERONAUTICAL BOARD. Plug - hydraulic set screw lock. (Army-Navy Aeronautical Standard Drawing AN 6233, rev.) May 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26624-R. U. S. AERONAUTICAL BOARD. Filter element - hydraulic replaceable micronic reservoir type. (Army-Navy Aeronautical Standard Drawing AN 6236, rev.) Mar 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26633-R. U. S. AERONAUTICAL BOARD. Ring - hydraulic packing back-up. (Army-Navy Aeronautical Standard Drawing AN 6246, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26713-R. U. S. AERONAUTICAL BOARD. Light assembly - flashlight (pen type). (Army-Navy Aeronautical Standard Drawing AN 8023, rev.) Jun 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26746-R. U. S. AERONAUTICAL BOARD. Bosses - standard dimensions for gasket seal straight thread. (Army-Navy Aeronautical Standard Drawing (Design) AND 10050-6, rev.) Jun 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26751-R. U. S. AERONAUTICAL BOARD. Bosses: Pipe-thread, internal - standard dimensions for. (For basic report see PB 26751, vol. 3, p. 659). (Army-Navy Aeronautical Standard Drawing (Design)AND 10053 rev.). Mar 1947. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 26757-R. U. S. AERONAUTICAL BOARD. Tubing end - standard dimensions for flared. (Army-Navy Aeronautical Standard Drawing (Design) AND 10061-2, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26768-R. U. S. AERONAUTICAL BOARD. Fastener - dimensions for cowling. (Army-Navy Aeronautical Standard Drawing (Design) AND 10076-1, rev.) May 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26774-R. U. S. AERONAUTICAL BOARD. Fastener installation - snapslide. (Army-Navy Aeronautical Standard Drawing (Design) AND 10082, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26849-R. U. S. AERONAUTICAL BOARD. Colors - fluid lines identification. (Army-Navy Aeronautical Standard Drawing (Design) AND 10375-4, rev.) Jul 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26874-R. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell size 18. (Army-Navy Aeronautical Standard Drawing (Design) AND 10429, rev.) Jun 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26875-R. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell size 20. (Army-Navy Aeronautical Standard Drawing (Design) AND 10430, rev.) Aug 1946. 3 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26876-R. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell size 22. (Army-Navy Aeronautical Standard Drawing (Design) AND 10431-1, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26877-R. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell size 24. (Army-Navy Aeronautical Standard Drawing (Design) AND 10432, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26878-R. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell size 28. (Army-Navy Aeronautical Standard Drawing (Design) AND 10433, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26879-R. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell size 32. (Army-Navy Aeronautical Standard Drawing (Design) AND 10434, rev.) Aug 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26879-R2. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell size 32. (Army-Navy Aeronautical Standard Drawing (Design) AND 10434, rev.2) Oct 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26881-R. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell size 40. (Army-Navy Aeronautical Standard Drawing (Design) AND 10436, rev.) Oct 1946. 3 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26882-R. U. S. AERONAUTICAL BOARD. Insert arrangements - electrical connector shell - size 44. (Army-Navy Aeronautical Standard Drawing (Design) AND 10437, rev.) Oct 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 26884-R. U. S. AERONAUTICAL BOARD. Receptacle - fuel nozzle grounding (installation of). (Army-Navy Aeronautical Standard Drawing (Design) AND 10439, rev.) Jul 1946. 1 p. Price: Microfilm-50¢ - Photostat-$1.00

Aircraft

PB L 85442-S. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Effect of extreme atmospheric conditions on the strength of glued joints. Addendum. (Rept S.M.6, Supp.) Dec 1941. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00

Tests were conducted to determine the effect of a number of cycles of high temperature and low humidity alternating with normal temperature and high humidity on the strength of joints between plywood and solid timber made with casein glue. It was possible to perform only 17 cycles and up to this number no significant deterioration of the glued joints was observed.-Abstract prepared by CSIR Div. of Aeronautics.

PB L 85442. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS.

Aircraft (contd)

Examination of damaged Anson wings. Part I: Portions of wing from Anson A4-5. Part II: Portions of wing from Anson N1331. By H. A. Wills. (Rept S.M.6) Mar 1941 22 p. Price: Microfilm-$1.50 - Photostat-$3.00

Portions of a damaged Anson mainplane were submitted by the Department of Air for examination "to ascertain whether there was any possibility that failure of the mainplane was due to any structural defect." The fragments came from Anson A4-5 which was involved in an accident at Glenbrook, New South Wales, while flying from Parkes to Sydney on January 29th, 1941. It was reported that portions of the port wing failed and detached themselves from the aircraft in the air. The examination and tests on the port spar indicated that, in general, the construction of this part was sound; but one lamination in the upper boom showed excessive slope of grain. The adhesion of the plywood wing covering to the spars and ribs was poor in general, and in some locations very poor indeed, due apparently to insufficient pressure when making the joints. The moisture content of the whole structure when tested was abnormally low, and this may have had an adverse effect on those glued joints which had been made with insufficient pressure particularly those between skin and supporting structure. At a later date portions of the front spar of Anson N1331 which had been damaged in a collision on the ground, were submitted for examination because of the similarity in location and nature of the fractures to those of Anson A4-5 which had failed in the air. An examination indicated that the glued joints, made chiefly with cold setting synthetic resin glue, were in poor condition. Tests on the joints confirmed that their strengths were below the generally accepted design values. Photographs and tables are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85461. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Examination of Japanese tail-wheel retraction unit. (Instrument Note 21). Oct 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

At the request of the R.A.A.F., a tail-wheel retraction unit taken from a Japanese medium bomber has been examined. It is electrically driven and can lift 150 lbs. two feet in a little over seven seconds. Measurements of speed of operation at various loads and voltages have been made.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85448. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Kittyhawk aircraft: Part I: Trials with an 83 gallon belly fuel tank. Part II: An investigation of the effect on top speed of polishing the aircraft. (Rept F.8). Sep 1942. 19 p. Price: Microfilm-$1.25 - Photostat-$2.00

An 83 (Imperial) gallon externally carried Belly Fuel tank of moulded plywood has been treated as an overload item on a Kittyhawk at normal maximum load, and its effect on performance in speed and climb determined. On rated power the initial climb is decreased from 2000 ft. per minute to 1580 feet per minute by the addition of the tank. The time to 20,000' is increased from 11.7 minutes to 15.8 minutes, while the estimated service ceiling is decreased from 32,300' to 26,800'. The top speed on military power at full throttle height is decreased from 348 m.p.h. at 12,300' to 314 m.p.h. at 12,000', and the top speed on rated power at full throttle height is reduced from 330 m.p.h. at 11,800' to 300 m.p.h. at 11,300' by the addition of the tank. The top speed figures have been analysed, and making some broad assumptions and with the consumption figures available, a curve is given showing the probable increase in range, at constant indicated airspeed, due to the addition of the tank. The effect of polishing the aircraft in stages has been investigated - (a) Polishing control surfaces has no detectable influence on top speed or control characteristics; (b) Polishing the mainplanes brought about an increase in the top speed on military power at full throttle height of about 6 m.p.h.; (c) Polishing the fuselage brought about an increase in top speed on military power of about 1 m.p.h. Tables and graphs are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85471. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Note on cowls for the rear gun emplacement of R.A.A.F. Hudson bomber. By T.F.C. Lawrence. (Rept A.1). Aug 1940. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00

Model tests were made to determine a suitable fixed cowl for the rear gun emplacement of the R.A.A.F. Hudson bomber. Observations of the wake conditions behind various cowls showed that the wake from the proposed type of cowl was smaller than that from the Boulton Paul turret now fitted to the R.A.F. Hudson. Since the controllability of the British bomber was not seriously affected by the addition of the Boulton Paul turret, it was concluded that no control difficulties would arise when the fixed cowl was fitted to the R.A.A.F. Hudson. This was verified by flight tests. Photographs and curves are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85476. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Note on the estimation of the performance of the type 99 Japanese dive bomber. By F. G. Blight. (Aerodynamics Note 24). Jun 1943. 17 p. Price: Microfilm-$1.25 - Photostat-$2.00

Performance estimate for the Type 99 Japanese dive bomber. The drag of the aircraft was estimated for 100 feet/second at sea level using a Reynolds number deduced from an assumed speed of 200 M.P.H. Included are graphs and tables.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85456. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Spitfire Vc aircraft: Part I - Performance of a tropicalised version with 30 and 90 gallon belly fuel tanks. (Rept F.12/1). Aug 1943. 21 p. Price: Microfilm-$1.50 - Photostat-$3.00

Brief performance trials of a Tropicalised Spitfire Vc were carried out at Special Duties and Performance Flight, R.A.A.F. Station, Laverton. The work covered level speed, climb, range and take-off measurements in a normal condition and with 30 and 90 gallon belly tanks fitted. Photographs and graphs are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85446. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Structural tests of Beaufort components. Part II: Tests of engine mounting. By H. W. Maley. (Rept S.M. 12-2) Oct 1941. 11 p. Price: Microfilm-$1.25 - Photostat-$2.00

An engine mounting structure for the Bristol Beaufort aircraft fabricated from T.45 tubing electric arc welded and, on the mounting ring S.3 sheet, instead of DTD.347 tubing and DTD.124A sheet as called for on the original Bristol drawings, was statically tested to check its compliance with the Airworthiness Requirements. The mounting was considered satisfactory although the proof strength of the ring incorporating the S.3 plates was marginal. Photographs and graphs are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85443. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Tests of replacement components for seagull aircraft. Part I: Tests of wooden spar. By H. W. Maley. (Rept S.M. 13) Aug 1941. 15 p. Price: Microfilm-$1.25 - Photostat-$2.00

A wooden wing spar designed as a replacement for the original metal spars was tested in a special rig to determine whether the loads corresponding to design stressing cases could be satisfactorily withstood, tests being conducted for the two critical cases. Deflection measurements were taken to determine whether the proof requirement was met. Photographs, diagrams and graphs are appended.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85452. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Tests on a Beaufort wooden tailplane. By. A. T. Taylor. (Rept SM 34) Mar 1944. 19 p. Price: Microfilm-$1.25 - Photostat-$2.00.
Tests were conducted to ascertain the strength and stiffness of a wooden tailplane designed to replace the metal tailplane at present used on the Bristol Beaufort. The specimen was tested for the two critical loading cases. The tailplane met the stiffness requirement of AP 970 chap. 505 with a comfortable margin. It was slightly stiffer in torsion than its metal counter part but was of lower flexural stiffness. The strength tests covered proof loading to 85% of the revised Ultimate Load with C. P. at 0.5 C and at the L.E., and a final test to 147% Ultimate Load with C.P. at L.E. No major failure occurred in the tailplane but a skin failure occurred on the R. H. side at 140% Ult. Load and a small split - 3" long on the L.H. side and 1" long on the R.H. side - opened up in the tension skin at the F.S. at each corner of the fuselage cut-out. These splits ran back and out at 450° to the chord line. Photographs and curves are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85445. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Tests on stiffened panels for "Beaufort" aircraft. (Rept S.M. 12-1) Sep 1941. 11 p. Price: Microfilm-$1.25 - Photostat-$2.00
Two sets of three identical panels, one set stiffened with L40 extruded bulb angles, the other set stiffened with formed D.T.D.390 sheet sections, were tested in compression to ascertain whether the extrusions could be replaced by the formed sections. The panels with the formed section stiffeners gave slightly higher test results than those with bulb angles and were considered satisfactory as a replacement. Tables and diagrams are attached.--Abstract prepared by CSIR Div of Aeronautics.

PB L 85451. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Tests on three-ply flat panels in end compression. By F. S. Shaw and J. P. O. Silberstein. (Rept SM 35). Apr 1944. 19 p.
Price: Microfilm-$1.25 - Photostat-$2.00
A comprehensive testing project is being carried out dealing with the stability under compressive end load of flat and curved three-ply panels made from Hoop Pine (Araucaria cunninghamii). In all cases the loaded ends are clamped and the sides simply supported. This report covers that part of the project related to 3/16" thick flat panels, the grain of the outer veneers being parallel to the direction of loading. The panels had three variations in length and in width (i.e. nine combinations) and there were five repetitions of each. Control specimens comprising flexure, tension, compression and glue joints were also tested. Buckling loads were determined by Southwell's method as modified by Lundquist, and also by inspection of the load v. overall compression graphs. The buckling coefficients derived from these were compared with theoretical values and agreement was fairly good. Since the designing engineer is rather more interested in the ability of a panel to carry load after buckling curves of average stress v. edge stress are included. There are photographs and graphs.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85474. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Wind tunnel measurement of the hinge moments on bomb doors beneath an engine nacelle. By T. F. C. Lawrence and G. K. Batchelor. (Rept A.3). Jan 1941. 17 p. Price: Microfilm-$1.25-Photostat-$2.00
Hinge moments were measured on a pair of doors fitted to a bomb stowage compartment occupying the lower half of an engine nacelle. The measurements were required to give the design loads, and were made (a) on the complete door, and (b) on each one-third section, in the closed, full open, and two intermediate positions, with the model yawed through ± 10°, ± 5° and 0°, and at incidences of 0°, 3° and 6°. The tests were performed without slipstream or cooling flow. Results are given in the form of tabulations, and in curves of hinge moment against yaw, incidence and angle of opening.--Abstract prepared by CSIR Div. of Aeronautics.

Instruments

PB L 85478. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Compass deviations due to aircraft cannon; laboratory experiments. By A.A. Townsend. (Instrument Note 10). Jan 1943. 6 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Work being carried out on the effect on the observer's compass of the cannon carried by the Beaufighter. By the usual methods, compass deviations may be reduced to a low figure (around 2°) and these deviations are expected to remain constant during flight. It has been observed that after firing the cannon, large deviations appear in both the pilot's and the observer's compass. Experiments on magnetization induced by shock are described. On the basis of laboratory experiments, some suggestions are made for eliminating compass deviation on the Beaufighter, and estimates made of the effectiveness of the devices.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85463. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Examination of Japanese electric tachometer. By A. A. Townsend. (Instrument Note 19). Aug 1943. 12 p. Price: Microfilm-$1.25 - Photostat-$2.00
A complete electric tachometer taken from a captured Japanese aircraft, has been examined and tested. It employs an A. C. generator and a rectifier-type indicator and satisfactory temperature compensation has been achieved. The workmanship and finish is good, but several features of the indicator seem to require more skilled fitting than is usually acceptable in a production instrument. Photographs and curves are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85462. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Examination of Japanese tachometer generator. (Instrument Note 13). Mar 1943. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
A tachometer generator taken from a Japanese aircraft has been examined, and found to be very much smaller and lighter than standard British and American generators. It is suggested that an indicator be obtained, so that a comprehensive test can be made on the complete tachometer. Photographs and typical oscillograms are provided.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85464. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. A noise-meter for use at high levels. By A. A. Townsend. (Rept I.3). Sep 1941. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
A noise-meter has been constructed with a view to use in the neighbourhood of high power engines and aircraft. Owing to the high sound levels prevailing, the design may be considerably simplified, and a comparatively light and compact instrument of straightforward construction has been produced. A photograph and a circuit diagram are appended.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85145. RAEUERLE, H. Design of velocity meters at the AVA Goettingen. (Supplement to the report of the Institute "Wind tunnels," June 25, 1945). (BIOS Rept 81). Aug 1946. 16 p. Price: Mimeo-$0.50

Instruments (contd)

Pitot-static tubes are easily made. They are distinguished for comparatibely small errors in indication, especially in the often used range of -5° to 5° of the angle of incidence. Particular calibration of each tube can be dispensed with. In this report the following subjects are discussed: (1) Aircraft pitot-static tubes with compensation of position error; (2) Measurement of pressure for barometric ignition; (3) Pitot-static tubes for high speed; and (4) Aernautical log. Nine sketches and eight charts are included.

*PB L 80639. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE. Interrogation of Gurt von Manteuffel of Askania A. G. Triple gyro system. (Interrogation Rept 358). Feb 1947. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

This report describes the triple gyro stabilizer and the standard autopilot generally known as the Patin autopilot.

PB L 30873. DUNCAN, T. C. Paralleling of Eclipse aviation control panel No. 323-1-A for C-47 airplane. (AAF Materiel Command Memo Rept EXP-M-54-656-559) Sep 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30872. DUNCAN, T. C. Vibration tests of Eclipse aviation generator control panel 323-1-A, using spring mounts. (AAF Materiel Command Memo Rept EXP-M-54-656-562) Sep 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30919. GREENLEE, P. H. Indicator assembly: Dietz Manufacturing Company, "Teller." (AAF ASTC Eng Div Memo Rept TSEPL-3-656-1074A) Nov 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 81039. HENRICH, EMIL. Instrumentation of aircraft as used by the Flight Test Division. (AAF Tech Rept 5551). Feb 1947. 90 p. Price: Microfilm-$2.00-Photostat-$6.00

The purpose of this report is to set forth the general instrumentation requirements for the complete flight testing of aircraft as required by the Flight Test Division of the Air Material Command, Wright Field, Ohio. In this report a detailed analysis of what constitutes complete instrumentation is presented in order to form a basis for specifications for the Flight Test Engineering officers, and to present a guide to the contractors when instrumentation is included in the contract and is installed by the contractor. The text is supplemented by illustrations.

Engines and Propellers

PB L 85466. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. The capacity of screened high tension ignition systems. By M. W. Woods. (Rept E.4). Jan 1941. 6 p. Price: Microfilm-$1.00-Photostat-$1.00

The electrostatic capacities of ignition harnesses of the conduit type and of two kinds of metal-braided H.T. cable have been measured, to assist in determining reasonable performance requirements for magnetos.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85460. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Cooling calibration of an R2600-31 Wasp engine in Ventura aircraft A.59-4. By G. J. Dailey and T. S. Keeble. (Rept E.39). Jun 1944. 19 p. Price: Microfilm-$1.25 - Photostat-$2.00

A cooling calibration of the R2800-31 engine in a Ventura aircraft has been obtained. Operating temperatures have been found in agreement with other published work on this engine providing the engine conductivity as determined in the C.S.I.R. wind tunnel be used and due allowance be made for the influence of charge inlet temperature on effective gas temperature. Cooling requirements for the proposed R2800-10 engine in the CA.15 aircraft have been recalculated using the new experimental data. Photographs, tables, and curves are included. --Abstract prepared by CSIR Div. of Aeronautics.

PB L 85473. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Cylinder wear in Wasp and Twin Wasp engines: Test of a chromium-plated cylinder. By M. W. Woods. (Rept E.13). Dec 1941. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00

A chromium-plated Wasp cylinder has been run for 100 hours on a single-cylinder engine. The condition of the cylinder and rings after the test, the rate of wear, and the possibility of improving the plating have been investigated. Although the quality of the plating was satisfactory, the rate of cylinder wear was rather high. Very little wear occured on the rings. It is proposed by R.A.A.F. that plating should be used as a means of reclaiming Twin Wasp cylinders which have worn beyond permissible limits. The investigation shows no technical objection to this procedure, apart from the comparatively high rate of wear.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85459. AUSTRALIA.. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Development of a flame-damper for Vengeance aircraft. By W. H. Clements and T. S. Keeble. (Rept E.38). May 1944. 25 p. Price: Microfilm-$1.50 - Photostat-$3.00

An "injector" type flame damper for R 2600-19 Cyclone engines in Vengeance aircraft has been developed on the dynamometer test-bed. A calibration of the successful form of the damper has been made and the results applied to top-speed flight of the aircraft; a nett momentum thrust results from the use of the damper and its installation should result in less drag than that accruing from the fitting of other types which have been developed for the aircraft. Further work on flight testing is to be done to check the flame-damping qualities and aircraft performance. A wind-tunnel investigation of the entry duct is proposed. Photographs and diagrams are appended. --Abstract prepared by CSIR Div. of Aeronautics.

PB L 85454. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Ducted counter-rotating airscrews. By G. N. Patterson. (Rept A.16) Sep 1943. 73 p. Price: Microfilm-$2.75 - Photostat-$8.00.

This Report is the fourth of a series on the subject of ducted airscrews. Previous work had indicated that high efficiency could be obtained with an airscrew-straightener combination, but only for a relatively low pressure rise through the unit. At higher pressure rises, the efficiency was reduced by interference effects in the straightener due to the larger amount of rotation in the slipstream. Further investigation showed that if the straightener were replaced by a second airscrew rotating in a direction opposite to that of the first airscrew and designed so that it removed the slipstream rotation introduced by the latter, then it would be possible to reduce the interference effects and so obtain a higher pressure rise while retaining the same high efficiency. The theory of ducted counter-rotating airscrews is given in this report along with two methods of design. It is shown that very high efficiencies are possible with a counter-rotating system and that these high efficiencies can be attai-

ed at larger pressure rises than in the case of an airscrew-straightener combination. In previous reports 1, 2, 3, the term "fan" has been used since they referred specifically to fans operating in a stationary duct. In this report the more general term "airscrew" has been adopted since the theory is also applicable to the propulsion of aircraft by ducted counter-rotating airscrews. Tables and graphs are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85470. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Ducted fans of high efficiency. By G. N. Patterson. (Rept A.7). War 1942. 43 p. Price: Microfilm-$2.00 - Photostat-$5.00

A method of design of axial flow fans for use in duct systems has been developed. The momentum and vortex theories of the airscrew as applied to ducted fans have been reviewed and a set of conditions deduced which lead to the design of a fan of high efficiency for any given duct. These conditions show that the choice of the ratio of axial velocity to rotational velocity of the blade element ($\lambda = u/\Omega r$) is of primary importance while so long as the ratio of lift to drag ($\gamma = C_L/C_D$) is large, it is a secondary consideration. The radial deflectors required to remove the rotation behind the fan are included as part of the general design problem. The method eliminates the necessity for successive approximations and graphical integration of thrust and torque grading curves. Diagrams and graphs are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85447. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Ducted fans of high efficiency - effect of straightener design. By G. N. Patterson. (Rept A 14) Feb 1943. 21 p. Price: Microfilm-$1.50 - Photostat-$3.00

The conditions which lead to the design of a fan-straightener unit of high efficiency have been extended by a detailed examination of the part played by the straightener. The best operating condition for the straightener blade element has been determined and applied to the case of the N.P.L. straightener. The whole problem of design for high efficiency is then summarized in three final conditions which show the designer how to obtain the maximum efficiency possible with a fan-straightener unit. The result of the above investigation show that high efficiency in a fan-straightener unit corresponds to an increase of pressure (Δh) through the unit of about the same order as the initial dynamic head in the annulus in which the unit operates (i.e. $k = \Delta h / \frac{1}{2}\rho U^2 = O(1)$). This means that in ducts where ΔH is large compared with $\frac{1}{2}\rho U^2$ (i.e. $k >> 1$), a large number of fan-straightener units (or stages) must be used if high efficiency is to be maintained. In many practical installations a value of the fan operating coefficient (k) considerably in excess of 1.0 is unavoidable and the problem is to use the minimum number of stages while retaining a high efficiency The conditions at high values of k (i.e. at large slipstream rotation) have therefore been investigated to determine the variation of efficiency with increase of slipstream rotation. Owing to the lack of complete information on straighteners designed for large angles of rotation, qualitative results alone have been obtained for this case. However, the important part played by blade interference is made clear and it is shown that the chief obstacle to high efficiency at large slipstream rotation (i.e. for $k >> 1$) is the high solidity of the straightener. Further developments show that the design can be considerably improved by replacing the straightener with a second fan rotating in a direction opposite to that of the first. Curves and diagrams are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85453. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Ducted fans with small slipstream rotation. By G. N. Patterson. (Rept A.13) Dec 1942. 32 p. Price: Microfilm-$1.75 - Photostat-$4.00.

This Report describes a second method of designing airscrew type fans with straighteners. The first method of design aimed particularly at obtaining a high efficiency and it was assumed that all other design factors could be chosen to suit this main condition. In practice, however, some of these factors are frequently fixed by other considerations and the problem then becomes that of determining a design which will give good efficiency under these conditions. It was necessary, therefore, to develop a second method of design which would be more direct in practical cases of this type. The second method of design is based on a large and relatively constant lift/drag ratio along the blade compared with constant efficiency at all radii in the first method. Also the straightener loss coefficient is to be small compared with the coefficient at which the fan operates. An approximate expression for the slipstream rotation factor has been developed from which it has been found possible to obtain an integration of the thrust and torque grading equations (as in the case of the first method). The overall characteristics of a fan designed to operate in a given duct can therefore be calculated without first carrying out detailed blade design, thus considerably facilitating the choice of a suitable fan for a given practical case. The method is direct in that no successive approximations or graphical methods are required and the detailed design need only be done once after the basic design factors are fixed and the resulting overall torque, thrust, power and efficiency have been found to be satisfactory.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85472. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Examination and tests of a Japanese Yokogawa magneto type 14CF2L. By J. C. Wisdom. (Rept E.18). May 1942. 14 p. Price: Microfilm-$1.25 - Photostat-$2.00

A captured Japanese magneto has been examined and tested. Details of the tests and of the construction of the magneto are given. It is of simple construction, the design is for the most part sound and the workmanship is good. While the performance is inferior to that laid down in Air Ministry specifications, the output is adequate over the working speed range of the magneto. Illustrations consist of photographs and curves.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85458. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Examination of Mitsubishi fuel injection pump and mixture control unit from Japanese type III single seater fighter. (Rept E.30). Oct 1943. 12 p. Price: Microfilm-$1.25 - Photostat-$2.00

This report describes a Japanese Mitsubishi "Jukogyo" 12 cylinder aircraft engine petrol injection pump and its mixture control unit. The pump, model 122A, and mixture control unit, model 8A, were manufactured in January, 1943. The design features and operation of the pump and control unit are discussed, and a brief comparison with some German types is given. Photographs and diagrams are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85465. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Note on proposed increased rating of S3C4-G Twin Wasp engine. By T. S. Keeble. (Engines Note 49). Nov 1943. 12 p. Price: Microfilm-$1.25 - Photostat-$2.00

Calculations of full-throttle powers and manifold pressures of the R1830 Twin Wasp engine have been made at 2700 and 2550 r.p.m.; maximum operating temperatures under I.C.A.N. and tropical summer conditions at constant relative pressure differential have been computed. The results have been applied to the S3C4-G Twin Wasp engine in production Boomerang aircraft; "all out level" speeds and rates of climb are increased substantially near sea level. Cooling difficulties will be met in the rated power climb where an increase in climbing speed or mixture strength should be found advantageous. --Abstract prepared by CSIR Div. of Aeronautics.

PB L 85455. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Spitfire Vc aircraft: Part II - Effect on full throttle performance of replacing the original tropicalised cowl and filter with a temperate cowl. (Rept F.12/2). Dec 1943. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
By replacing the production tropicalised cowl and filter in Spitfire V aircraft by a temperate cowl of local manufacture there is a gain of 1500 feet in rated height but the marked resulting deterioration of engine running caused a drop in the performance. The drag of the aircraft is not appreciably changed.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85450. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Suitability of R. A. E. type 2E 10-56A oil cooler for S3C-4G twin Wasp engines fitted to Beaufort aircraft. By W. B. Kennedy and T. F. C. Lawrence. (Rept A.5). Jul 1941. 20 p. Price: Microfilm-$1.25 - Photostat-$2.00
Beaufort aircraft being assembled by the Aircraft Production Commission are to be fitted with Pratt and Whitney S3C-4G Twin Wasp engines instead of the Briston Taurus engines for which the oil cooling installation was designed. It became necessary to determine whether the Taurus cooler would also cool the engine oil for the Twin Wasp. Wind tunnel tests were carried out to determine the airflow through the cooler, this being dealt with in the first part of this report. In the second part, approximate calculations are made of the amount of heat dissipated by the cooler under various conditions. It is concluded that the present installation will provide adequate oil cooling for the Twin Wasp for all engine operating conditions. Photographs, tables, and graphs are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85469. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Tests of a Mitsubishi Kinsei engine from a Japanese type 99 divebomber. By W. H. Clements and J. C. Wisdom. (Rept E.23). Apr 1943. 15 p. Price: Microfilm-$1.25 - Photostat-$2.00
An engine from a Japanese type 99 divebomber has been tested on a dynamometer stand. The maximum sea level power is 995 H.P at 2500 R.P.M. and 1050 H.P. is available at 6600 feet. The cooling of the engine is good enough to allow maximum power mixture to be usedfor continuous rating without overheating. Under cruising conditions, fuel consumptions as low as 0.5 pints/B.H.P. hour are possible without overheating, but no automatic mixture control is provided so that the mixture must be controlled manually uder varying altitude conditions. With the existing carburettor the engine cannot be operated above 29,000 ft. owing to excessive mixture enrichment with the control in the fully lean position. There are graphs and photographs.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85467. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Tests of a Nakajima engine from a Japanese army type 1 single seater fighter aircraft. By W. H. Clements and J. C. Wisdom. (Rept E.37). Mar 1944. 18 p. Price: Microfilm-$1.25 - Photostat-$2.00
An engine from a Japanese Army type 1 fighter OSCAR has been tested on a dynamometer stand. The maximum sea level power is 920 H.P. at 2700 R.P.M. and 1020 H.P. is available at 8000 feet. The cooling of the engine is poor and very rich mixture strengths are required at high power. Fuel loops show that mixture as lean as 0.48 pints per B.H.P. hour may be used for reduced cruise but at normal power rich mixtures are necessary if desirable cylinder head temperatures are to be maintained. Photographs and graphs are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85468. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Tests of a Nakajima engine from a Japanese "Zero" fighter aircraft. By M.W. Woods and W. H. Clements. (Rept E.21). Mar 1943. 15 p. Price: Microfilm-$1.25 - Photostat-$2.00
An engine froma a Japanese "Zero" fighter has been tested on a dynamometer stand. The maximum sea level power is 820 H.P. at 2600 R.P.M. and 925 H.P. is available at 11,500 ft. The cooling of the engine is poor, necessitating the use of mixtures richer than usual both for full power and for cruising. Fuel consumption under cruising conditions is 0.6 pints per B.H.P. hr. Mixture distribution is good and fuel loops show that a specific consumption of 0.5 pints per B.H.P. hr. would be possible, were it not for cooling limitations. Figures include photographs and plotted curves.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85477. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Wear of Wasp and Twin Wasp cylinders; tests of Australian chrome-molybdenum Wasp cylinders. By M. W. Woods. (Rept E.10). Dec 1941. 17 p. Price: Microfilm-$1.25 - Photostat-$2.00
Wear tests of three chrome-molybdenum steel cylinders have been conducted on a Wasp single-cylinder engine. Each cylinder has been run for 100 hours or longer, under maximum continuous cruising conditions, and the wear of cylinder and rings has been measured. It is considered that nitrided chrome-molybdenum cylinders will give satisfactory service, provided that the ring arrangement is such that an adequate oil supply reaches the top ring. Photographs and graphs are included.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85457. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Wear of Wasp cylinders: Test of a rejected cylinder, forged on the "push-bench." By M. W. Woods. (Rept E.19). Jul 1942. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
A "push-bench" forged Wasp Cylinder, rejected because the steel contained many small inclusions, has been run for 200 hours on the single-cylinder engine. The rate of cylinder wear was low, and the ring wear was high only during a portion of the test when the oil consumption was very low. There is no evidence that the presence of the inclusions had any effect on wear. After the test, Magnaflux examination showed no cracks and miscroscopic examination gave no indication that the inclusions were acting as stress-raisers, leading to fatigue failure. Tables, graphs and micro sections are included.--Abstract prepared by CSIR Div. of Aeronautics.

* PB L 80650. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE. Interrogation of Dr. Ing. Fritz Dreyhaupt: Research on engines. (Interrogation Rept 495). May 1947. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Dr. Fritz Dreyhaupt is a lecturer on thermodynamics, ignition and combustion in engines etc. This report contains a list of his scientific publications.

PB L 30870. CARPENTER, H. L. Installation of JL-5 starters on type B-24 airplanes. (AAF Materiel Command Memo Rept EXP-M-54-656-573) Oct 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30918. COLIN, R. J. Radio noise tests and recommendations on General Electric turbo supercharger regulator model 30PR7A1. (AAF Materiel Command Memo Rept ENG-54-656-1047) May 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

Engines and Propellers (contd)

PB L 80833. HEMMEIER, H. Flight tests of slide valve engine JUMO 210. (AAF T-2 Translation 3072). May 1947. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
The rotary valve Jumo 210 was installed in the center position on the Ju 52 three-engined bomber. The engine had been operated for 200 hours on the test stand and was then completely overhauled. Starting was very difficult at temperatures below zero unless acetylene was injected into the boost air. Except for a crack in the crank case the engine was in good condition after 200 hours of flight testing.

PB L 80714. GEILING, L. VON. The use of magnetic compasses in steel aircraft. Apr 1944. 21 p. Price: Microfilm-$1.00 - Photostat-$2.00
This document discusses the possibilities of using magnetic compasses in steel aircraft and measures which should be taken in preventing the magnetic material of the aircraft body from affecting the magnetized needle. In German. This is a report of the "Deutsche Forschungsanstalt für Segelflug."

Operations

PB L 85449. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Sighting corrections for a free gun. By G. K. Batchelor. (Rept A. 4). Feb 1941. 18 p. Price: Microfilm-$1.25 - Photostat-$2.00
Machine-gun bullets from a free aircraft gun experience various deflections not present when the gun is fixed and firing straight ahead. The current practice is to withhold fire until a range of 200 yards or less is reached when the deflections are of lesser importance. The object of this investigation is to trace quantitatively the path of a bullet fired from any angle at an enemy fighter aircraft which follows an assumed path. The deviations from the line joining firing aircraft and target will be given as corrections to the angles of azimuth and elevation of the gun. Thus if some mechanical means of transmitting the appropriate gun "off-set" from the sights can be arranged, accurate shooting at comparatively large ranges may be obtained without the use of inconvenient sighting devices. Diagrams are included. See also the two following supplements.--Abstract prepared by CSIR Div. of Aeronautics.

PB L 85449-S. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Sighting corrections for a free gun. Addendum. By G. K. Batchelor. (Rept A.4, Supp.). May 1941. 7 p. Price: Microfilm-$1.00-Photostat-$1.00

PB L 85449-S2. AUSTRALIA. COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH. DIVISION OF AERONAUTICS. Further consideration of sighting corrections for a free gun-parallel motion case. Second addendum. By G. K. Batchelor. (Rept A 4, Supp.). Mar 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 77387. BALDES, E. J. Crash injuries. Contract OEMcmr-560, Bi-monthly progress report, Oct 1, 1945. Oct 1945. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
In this report mention is made of the ejection seat and the design and construction of equipment to be used in the study of decelerations of large magnitude.

PB L 79131. BENSON, JAMES M. The porpoising characteristics of a planing surface representing the forebody of a flying-boat hull. (Natl Advisory Committee for Aeronautics Rept L-479) May 1942. 26 p. Price: Microfilm-$1.00 - Photostat-$2.00
A V-bottom planing surface representing the forebody of a flying-boat hull was used in an investigation of the low-angle type of porpoising. Controllable tail surfaces were fitted on an outrigger that supported them in a position roughly the same as they would have been on a complete model. The planing surface was considered as though it were part of a complete dynamic model and for each test it was balanced to bring the center of gravity of the assembly to the desired position, and the pivot about which it was free to turn was located there. The model was towed in the same manner as a complete dynamic model. A bibliography, data table, diagram and graphs are included.

PB L 79029. CRANE, HAROLD L. and SJOBERG, SIGURD A. Comparison of predicted and actual control-fixed stability and control characteristics of a Douglas A-26B airplane. (Natl Adv Comm for Aeronautics Rept L-608, Memo Rept L5D06). Apr 1945. 42 p. Price: Microfilm-$1.00 - Photostat-$3.00
This report presents a comparison of some of the flying qualities of the A-26B airplane predicted from the physical dimensions of the airplane with the actual flying qualities as determined by Langley flight tests. No estimate of control forces, of effects of power on stability, or of adverse aileron yaw has been made. A bibliography, diagrams and graphs are included.

PB L 79274. DAWSON, JOHN R. The effect of some design parameters on ditching characteristics. (Natl Advisory Committee for Aeronautics Rept L-646, Memo Rept L5G06). Jul 1945. 19 p. Price: Microfilm-$1.00 - Photostat-$2.00
The purpose of this report is to provide designers of airplanes with information that will be helpful in obtaining good ditching characteristics in new designs. The results from a number of model tests and reports of actual ditchings are used as a basis from which to draw conclusions as to the effect on ditching performance of general arrangement, interior arrangement, fuselage shape, and other design parameters. The characteristics of several types of ditching aids that could be incorporated in a design are also discussed. A bibliography and several diagrams are included.

PB L 79015. SOULÉ, H. A. and SEIDMAN, OSCAR. Influence of loading condition on piloting technique for spin recovery for pursuit airplanes. (Natl Adv Comm for Aeronautics Rept L-461). Jun 1942. 8 p. Price: Microfilm-$1.00-Photostat-$1.00
Recent information as to the influence on spins and spin recovery of the wing loading and load distribution of present-day pursuit airplanes is discussed for the guidance of pilots. It is pointed out that high wing loadings and rearward center-of-gravity locations make for more difficult spin recoveries. The high wing loadings also result in high rates of descent and large control forces for recovery. The position of the ailerons may have a considerable effect on both the steady spin and the recovery.

PB L 48746-R. U. S. BUREAU OF AERONAUTICS. Inflation gear; multi-place life raft and model AR-4 lifeboat. (Revision of PB 48746, vol. 4, p. 713). (NAVAER Specification 23-I-3). Mar 1947. 14 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 48744-R. U. S. BUREAU OF AERONAUTICS. Inflation gear, pararaft and packet raft. (Partial revision of PB 48744, vol. 4, p. 713). (NAVAER Specification 23-L-2). Apr 1947. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 49117-R. U. S. BUREAU OF AERONAUTICS. Paulins, life raft (aircraft use). (Partial revision of PB 49117, vol. 4, p. 410). (NAVAER Specification 23P18). Jun 1947. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 79112. WETMORE, JOSEPH W. and SAWYER, RICHARD H. Flight tests of P2A-2 airplane with full-span slotted flaps and trailing-edge and slot-lip ailerons. (Natl Advisory Committee for Aeronautics Rept L-272, AR Rept 3L07) Dec 1943. 44 p. Price: Microfilm-$1.00 - Photostat-$3.00

Flight tests were made of a Navy P2A-2 airplane specially equipped with full-span NACA slotted flaps and with two sets of lateral controls: internally balanced, sealed ailerons on the flap trailing edge for use with flaps up and slot-lip ailerons, immediately forward of the flaps, for use with flaps down. The tests, made with various flap positions ranging from neutral to 50° included determination of effectiveness and stick forces of the two aileron systems, power-off maximum lift coefficients, and static longitudinal stability. A bibliography, diagrams, graphs, and photographs are included.

LAND TRANSPORTATION

PB L 31905. STEPHENS, W. M. Power absorption trailers. Final report. (Aberdeen Proving Ground Rept 448l/23) Jun 1943. 28 p. Price: Microfilm-$1.00 - Photostat-$2.00

*PB L 81843. U. S. FIELD INFORMATION AGENCY, TECHNICAL. Mercedes-Benz 4 cylinder Diesel vehicle, engine type, "OM 138" manufactured by Daimler-Benz A. G., Stuttgart-Untertürkheim. (Tech Bulletin T-3) Mar 1947. 2 p. Price: Mimeo-$0.25

This small Diesel engine "OM 138" was originally designed for use in passenger cars. However, its development for this use never went beyond the experimental stage. It was used successfully in both a one ton and a one and one-half ton truck, manufactured by Daimler-Benz. It has 4 cylinders in line with a bore of 90 mm. and a stroke of 100 mm., displacement is 2545 cu. cm. and compression ratio 1:19. At normal speed, 2800 r. p.m., it develops a brake horse power of 44 h. p. FIAT Microfilm No. 13-6 shows drawings of assemblies, sub-assemblies, details, standard parts and stock lists. The completeness of the data in that reel should make possible the manufacture of such engines, without the expenditure of any costly engineering and design time.

* PB L 81844. U. S. FIELD INFORMATION AGENCY, TECHNICAL. Motorcycle model R-23, manufactured by Bayerische Motoren Werke A. G., Muenchen. (Tech Bulletin T-4) Mar 1947. 1 p. Price: Mimeo-$0.25

A complete set of drawings of assemblies, sub-assemblies, the details of standard parts, and stock lists of the BMW motorcycle Model R-23 are shown on FIAT Microfilm No. 258-G, PB 70497, vol. 5, p. 812. The name BMW is internationally known because of excellent design, good workmanship, and outstanding performance. The completeness of the data shown on that microfilm makes production of Model R-23 possible, without the expenditure of any costly engineering and design time.

PB L 3296-S. U. S. ORDNANCE DEPARTMENT. List of all service parts for truck, 3/4-ton, 4 x 4 (Dodge, model T-214). (Technical reference: Tech Manual 9-808) (Catalog ORD 9, Standard Nomenclature List G-502) May 1945. 429 p. Price: Microfilm-$9.00 - Photostat-$29.00

This publication supersedes ORD 9 portion of ORD 7-8-9 SNL G-502, dated August 15, 1944. The parts listed in this catalog are divided into groups and subgroups in accordance with standardized government grouping, facilitating the location and identification of each part. Indexes are listed in the following sequence: Illustrations, Alphabetical, Numerical (Ordnance Drawing Numbers, Manufacturers' and Vendors' Part Numbers and Stock Numbers).

PB L 86324-S. U. S. ORDNANCE DEPARTMENT. Ordnance supply catalog: Organizational spare parts and equipment, higher echelon spare parts and equipment (Addendum) and service parts catalog for motorcycle, chain drive, solo (Harley-Davidson model WLA). (Supplement to PB 86324) (Army Service Forces Catalog ORD 7-8-9; Standard Nomenclature List G-523) (Combined) Sep 1944. 320 p. Price: Microfilm-$7.00 - Photostat-$32.00

Besides a General Information Section, this Standard Nomenclature List contains the following sub-divisions: Organizational Spare Parts and Equipment (ORD 7), Higher Echelon Spare Parts and Equipment (Addendum) (ORD 8), Service Parts Catalog (ORD 9) and Indexes. The parts listed are divided into major and minor groups in accordance with Standardized Government Grouping. Exploded views are used throughout the book to aid in locating and identifying parts. Changes 1, 1 March 1945 and Changes 2, 30 April 1945 are included.

PB L 86324. U. S. WAR DEPARTMENT. Motorcycle, solo (Harley-Davidson Model WLA). (Tech Manual 9-879) Oct 1943. 206 p. Price: Microfilm-$6.00 - Photostat-$21.00

This manual contains a description of the Harley-Davidson motorcycle and technical information required for identification, use and care of the vehicle. The manual is divided into two parts. Part One, section I through section VI, gives vehicle operating instructions. Part Two, section VII through section XXV, gives vehicle maintenance instructions. The subject motorcycle is a 2-cylinder solo powered by a V-type, air-cooled gasoline engine, operating on conventional 4-stroke, 4-cycle principles.

MISCELLANEOUS

*PB L 81845. BRILL, RUDOLF and others. X-ray study of magnesium oxide. (FIAT Rept 1134). 1946. 17 p. Price: Mimeo-$0.50

The electron distribution in the MgO grid is determined by means of the Fourier synthesis. The lowest electron density between ions is found to be only 0.6 El. Å^2, while the comparable value for NaCl is 0.23 El. Å^2. Three dimensional analyses show that in the MgO grid higher electron densities are found at all locations sufficiently far from the atomic centers than are found in NaCl or other alkali halides. This is ascribed tho the fact that in MgO there exists already an intermediate condition between ionic and covalent bond. Text in German.

PB L 33275. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE. Preliminary reports list No. 225. Jan-Mar 1946. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00

Includes BIOS interim investigation reports No. 615/1, 12A932/3, 611/1, 618, 2/1, 546/1, 615/2, 343/2, 237/1, 617.

PB L 31832. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 297. Mar 1946. 10 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim Investigation Report Nos 611/2, 611/4, 776, 777, 688/1, 325/9, 303/3, 778, 779, 615/3.

PB L 31833. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 298. Feb-Apr 1946. 9 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim investigation report Nos. 22L3/2, 22L3/3, 22L3/4, 22L3/6, 22L3/5, 22L3/7, 22L3/8, 995, 996, 22L6/10, TM46/43, 46/15, 22L/16/43, 22L/16/41 and 22L/16/42.

PB L 31834. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 299. Mar-Apr 1946. 10 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim investigation report Nos. TM 46/27, TM 46/30, TM/46/32, TM 46/33, TM 46/34, TM/46/35, TM 46/36, TM 46/37, TM 46/38, TM 46/39, TM 46/42, TM 46/41.

PB L 31835. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 322. Apr-May 1946. 9 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim investigation report Nos. 22L-26/1, 22L-26/2, 22L-26/3, 22L-26/4, 22L-26/5, 22L-26/6, 22L-26/7, 22L-26/8, 22L-26/9, 22L-26/10, 22L-26/11, 22L-26/12, 22L-26/13, 22L-26/14, 22L-26/15 and 22L-26/16.

PB L 31836. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 328. Apr-May 1946. 8 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim investigation report Nos. 22E 12/14, 22L-3/28, 22L-3/27, 22L-21/32, 22L-21/31, 22H-10/21, 22H-10/22, 22H-10/19, 22H-10/20.

PB L 31837. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 330. Mar-Apr 1946. 9 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim investigation report Nos. 22G-8/25, 22G-8/26, 22L-3/26, TM46/63, TM46/68, TM46/54, 783, 793, 825 and 217/7.

PB L 31838. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 331. Aug-Sep 1945, Mar-Apr 1946. 12 p. Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim investigation report Nos. 329/2, 448/1, 562, 824, Q56, 790, Q21D, PJJ, E81, E161A and F75M.

PB L 31839. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 332. Feb-Apr 1946. 10 p.
Price: Microfilm-$1.00 - Photostat-$1.00 (Limited mimeo supply $0.25)
Includes BIOS Interim Investigation Reports Nos. F75L, 815, 827, 832, 324/2, 325/8 and 75/7.

PB L 31911. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 329. Apr 1946. 8 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim Investigation report Nos. TM/46/55, 22E 12/11, 22E 12/12, 22G-8/16, 22G-8/17, 22G-8/18, 22G-8/19, 22G-8/20, 22G-8/21, 22G-8/22, 22G-8/23 and 22G-8/24.

PB L 31840. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 341. Feb-May 1946. 8 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim Investigation Report Nos. 280/3, TM46/97, 825/1, 530/3, 382/3, 487/5, 615, and 616 and 609.

PB L 31841. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 342. May 1946. 7 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim Investigation report Nos. 22E-3/34, 22L-24/7, 22L-24/8, 415/1, 22E-11/10, 22E-11/11, 22E-11/14, 22E-11/21, 22E-11/18.

PB L 31842. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 343. Apr-May 1946. 7 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim Investigation reports Nos. 625-626-617-618-1067.

PB L 31912. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 344. Apr-May 1946. 9 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim Investigation report Nos. 391/3, 391/2, 1072, 840, 837, 674/3, 190/10, 623, 624, 1079 and 1080.

PB L 31913. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE.
Preliminary reports list No. 345. Apr-May 1946. 8 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Includes BIOS Interim Investigation report Nos. 876, TM46/83, 487/6, 838, 1068, 1069, 590/1, 203/32, 627 and 628.

PB L 70128. DEUTSCHER NORMENAUSSCHUSS, BERLIN.
Tables of German industrial standards. (FIAT Microfilm Reel C-3, Frames 2872-4135). 1926-1944. 1263 f.
Price: Microfilm-$6.00 - Enlargement print-$126.50
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. Text in German.

Frames	Title	Price
2872-2888 PB L 70128	Standards for building material. In German.	$2.00
2889-2892 PB L 70128	German standards for the building trade. In German.	1.50
2893-2899 PB L 70128	German standards for hard concrete materials and coverings. In German.	1.50
2900-2905 PB L 70128	German standards for the building trade. In German.	1.50
2906-2928 PB L 70128	German standards for the building trade. In German.	2.50
2929-2930 PB L 70128	German standards for the building trade. In German.	1.50

Miscellaneous (contd)

2931-2935 PB L 70128	German standards for the building trade. In German.	1.50
2936-2953 PB L 70128	German standards for nails and pins. 1940-1944. In German.	2.00
2954-2955 PB L 70128	German standards for the building trade. 1940/1941. In German.	1.50
2956-2958 PB L 70128	German standards for the building trade. 1934, 1939. In German.	1.50
2959-2971 PB L 70128	German standards for sewerage systems. In German.	1.50
2972 PB L 70128	German standards for the building trade. In German.	1.50
2973-2984 PB L 70128	German standards for the cultivation construction trade. Dec 1931, Oct 1933. In German.	1.50
2985-2990 PB L 70128	German standards for hand-tools. Aug 1939. In German.	1.50
2991-2992 PB L 70128	Standard tables for wire-netting with square meshes for building, forestry and farming purposes. Aug 1939. In German.	1.50
2993-3059 PB L 70128	German standards for sewerage systems. May 1935 - Nov 1942. In German.	7.00
3060-3119 PB L 70128	German standards for the building trade. Jan/Feb 1928. In German.	6.00
3120-3152 PB L 70128	German standards for field-, narrow gauge and ordinary railroads. Jul 1928-1931. In German.	3.50
3153-3165 PB L 70128	German standards for the mining industry. Jan 1926. In German.	1.50
3166-3168 PB L 70128	German standards for the building trade. May 1941, Dec 1942. In German.	1.50
3169-3203 PB L 70128	German standards for household ovens and stoves. 1933-1938. In German.	3.50
3204-3315 PB L 70128	German standards for abbreviations. (Nomenclature). In German.	11.50
3316-3384 PB L 70128	German standards for elevators. Apr 1927. In German.	7.00
3385-3407 PB L 70128	German standards for sanitary installations and sewerage. Mar 1932-May 1935. In German.	2.50
3408-3412 PB L 70128	German standards for the building trade. Jan 1928. In German.	1.50
3413-3425 PB L 70128	German standards for machine tools. Jan 1928. In German.	1.50
3426 PB L 70128	Standard tables on technical reports and publications. In German.	1.50
3427-3446 PB L 70128	German standards for bolts. Oct 1938. In German.	2.00
3447-3504 PB L 70128	German standards for lettering. In German.	6.00
3505-3612 PB L 70128	German standards for turnbuckles. In German.	11.00
3613-3722 PB L 70128	German standards for agricultural equipment. Apr 1926-Apr 1927. In German.	2.00
3723-3749 PB L 70128	German standards for libraries. Mar 1940. In German.	3.00
3750-3759 PB L 70128	German standards for measuring devices. Apr 1929. In German.	1.50
3760-3785 PB L 70128	German standards for foundries and rolling mills. Oct 1939-Apr 1941. In German.	3.00
3786-3837 PB L 70128	German railroad standards. Apr 1927-Oct 1942. In German.	5.50
3838-4110 PB L 70128	German standards for materials and their testing. Jan 1935-1944. In German.	27.50
4111-4135 PB L 70128	German standards for machine tools. 1927-1940. In German.	2.50

PB L 70128-S. DEUTSCHER NORMENAUSSCHUSS, BERLIN. Tables of German industrial standards. (FIAT Microfilm Reel O-3, Frames 2872-4135, abstract cards). 1926-1944. 38 p. Price: Microfilm-$1.00 - Photostat-$3.00
Brief abstracts of the individual items on the above reel No. O-3, PB 70128, prepared by the FIAT personnel in Germany.

PB L 70133. DEUTSCHER NORMENAUSSCHUSS, BERLIN. Tables of German industrial standards. (FIAT Microfilm Reel O-5, Frames 5373-6434) 1927-1944. 1061 f. Price: Microfilm-$6.00 - Enlargement print-$106.50.
This reel was prepared by FIAT investigators in Germany. 25 individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. Text in German.

Frames	Title	Price
5373-5612 PB L 70133	Standard tables for gas and water fittings. 1928-1940. In German.	$24.00
5613-5614 PB L 70133	Textile industry. 1927. In German.	1.50
5615-5632 PB L 70133	Hoisting engines. 1929-1934. In German.	2.00
5633-6019 PB L 70133	Standards of the building trade. 1933-1944. In German.	39.00
6020-6059 PB L 70133	German standards for photographic practice. 1931-1943. In German.	4.00
6060-6075 PB L 70133	German standards for office furniture. 1929-1939. In German.	2.00
6076-6078 PB L 70133	Standards for beds. n.d. In German.	1.50
6079-6080 PB L 70133	Standards for tables. 1936. In German.	1.50
6081-6083 PB L 70133	Standards for lids and rings of preserving jars. 1939. In German.	1.50
6084-6090 PB L 70133	Standards for beds in dormitories. 1936-1937. In German.	1.50
6091-6094 PB L 70133	Automotive engineering. 1932-1934. In German.	1.50
6095-6124 PB L 70133	German standards for spectacles. 1936-1943. In German.	3.00
6125-6165 PB L 70133	German standards for gas and water installations. 1931-1944. In German.	4.50
6166-6169 PB L 70133	Standards for laundry machines. 1939. In German.	1.50
6170-6186 PB L 70133	Standards for corrosion. 1939. In German.	2.00

Miscellaneous (contd)

6187-6193 PB L 70133 — Conversion table for ("zoll") inches into millimeters and vice versa. 1935. In German. 1.50

6194-6201 PB L 70133 — German standards for conveyors. 1933. In German. 1.50

6202-6226 PB L 70133 — German standards for deep drilling practice. 1933-1943. In German. 3.00

6227-6252 PB L 70133 — German standards for tools. 1935-1944. In German. 3.00

6253-6261 PB L 70133 — German standards for paper and stationary. 1934-1941. In German. 1.50

6262-6309 PB L 70133 — German standards for lighting practice. 1935-1940. In German. 5.00

6310-6311 PB L 70133 — German standards for acoustics. 1942. In German. 1.50

6312-6345 PB L 70133 — German standards for hotel articles. 1928-1941. In German. 3.50

6346-6434 PB L 70133 — German standards for tools. 1930-1939. In German. 1.50

PB L 70133-S. DEUTSCHER NORMENAUSSCHUSS, BERLIN. Tables of German industrial standards. (FIAT Microfilm Reel O-5, Frames 5373-6434. Abstract cards.) 1927-1944. 25 p. Price: Microfilm-$1.00 - Photostat-$2.00.
Brief abstracts of the individual items on the above reel O-5, PB. 70133, prepared By FIAT personnel in Germany.

PB L 70127. DEUTSCHER NORMENAUSSCHUSS, BERLIN. Tables of German industrial standards. (FIAT Microfilm Reel O-11, Frames 1589-2509) 1930-1944. 920 f.
Price: Microfilm-$6.00 - Enlargement print-$92.00.
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. Text in German.

Frames	Title	Price
1589-1811 PB L 70127	Locomotive construction. 1934-1941. In German.	$22.50
1812-2434 PB L 70127	Electrical engineering. 1944. In German.	62.50
2435-2437 PB L 70127	Screw joints for pipes. 1930. In German.	1.50
2438- PB L 70127	Testing of fibres, spun, and woven textiles. 1937. In German.	1.50
2439-2448 PB L 70127	Electric heating practice. 1937. In German.	1.50
2449-2509 PB L 70127	Standards for the electrical engineering. 1937. In German.	6.50

PB L 73883. ERLANGEN, GERMANY. UNIVERSITY. A collection of doctors' theses. (FIAT Microfilm Reel D-189, Frames 8113-8988) 1938-1940. 375 f. Price: Microfilm-$6.00 - Enlargement print-$87.50.
This FIAT microfilm reel consists of 21 doctoral theses in the field of veterinary medicine and biology. The material was obviously seized in the library of the above university. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
8113-8135 PB L 73883	Experiments for the preparation of granulated active carbon from boneblack. By Peters. 1938. In German.	$2.50
8136-8159 PB L 73883	Acidity, basicity and physiological effect. By Plüddemann. 1939. In German.	2.50
8160-8193 PB L 73883	Charles Darwin's theory of evolution as an expression of the English philosophy of life of the 19th century. By Rieckmann. 1938. In German.	3.50
8194-8230 PB L 73883	Contribution to the anatomy and biology of Polytrichaceae. By Schulz. 1939. In German.	4.00
8231-8265 PB L 73883	On the ability of stem cuttings for repeated root formation. By Siebs. 1939. In German.	3.50
8266-8288 PB L 73883	The fractionated distribution of neutral substances: a contribution to the knowledge of the methylnaphthalene fraction of coal tar. By Turowski. 1939. In German.	2.50
8289-8336 PB L 73883	Studies of the breeding process in seven breeding farms of black-colored ("schwarzbunt") flat-country cattle in Ostfriesland, by means of their most important cow families. By Beckhusen. 1939. In German.	5.50
8337-8354 PB L 73883	Steffen's method of extraction of sugar from molasses. By Fischer. 1939. In German.	2.00
8355-8433 PB L 73883	Suppositions and directives for the mechanization of agriculture in Esthonia. By Järvesoo. 1939. In German.	8.00
8434-8471 PB L 73883	Investigations of Alternaria solani Jones et Grout, particularly regarding pathogenesis for potato tubers, depending on the external factors. By Klaus. 1940. In German.	4.00
8472-8510 PB L 73883	Investigations on debatable questions concerning the postembryonal development of the intestinal tract of the honey-bee. By Kusmenko. 1939.	4.00
8511-8559 PB L 73883	Mechanism of reaction in the synthesis of the cellular substance of Torula yeast. By Plottner. 1940. In German.	5.00
8560-8598 PB L 73883	Investigations into the expenditure for transportation and organization in agriculture. By Prien. 1940.	4.00
8599-8625 PB L 73883	The influence of water and soil on the crop and quality of various vegetables. By Scholz. 1940. In German.	3.00
8626-8640 PB L 73883	The effect of several carbohydrate decomposing enzymes on differently stored vegetables (asparagus and beans). By Riethus. 1940. In German.	1.50
8641-8684 PB L 73883	Historical development, causal relations and consequences of the price differences between grain and improved agricultural products. n.d. In German.	4.50

Miscellaneous (contd)

8685-8719 PB L 73883 — The problem of just prices in agriculture ; a critical analysis of the value and price theory of the "classicists of economic liberalism" and of the "liberal agrarian scientists". By Graf von Sparr. 1940. In German. 3.50

8720-8751 PB L 73883 — Comparative investigations regarding the production of cellulose from potato tops of different origin. By Wilke. 1940. In German. 3.50

8752-8783 PB L 73883 — Experiments for ascertaining how far small infusions will spread within the cavity system of diseased parts of udders. By Heidrich. 1939. In German. 3.50

8784-8896 PB L 73883 — The Reich animal breeding law and its effect hitherto upon the breedings in the Rheinland. By Becker. 1940. In German. 11.50

8897-8988 PB L 73883 — The economic situation of agriculture in the Rhon emergency area. By Bockhorn. 1939. In German. 9.50

PB L 74189. ERLANGEN, GERMANY, UNIVERSITY. A collection of doctors theses. (FIAT Microfilm Reel D-195, Frames 3853-4915) 1937-1941. 863 f. Price: Microfilm-$6.00 - Enlargement print-$86.50

This FIAT microfilm reel consists of 21 items in the field of farming and animal husbandry. The material was obviously seized in the library of the above university. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel.
In German.

Frames	Title	Price
3853-3868 PB L 74189	On the knowledge of the conversion of calcium cyanamide in the soil. By Wienhuss. 1940. In German.	$2.00
3869-3884 PB L 74189	The albumin, globulin and fibrin content of the serum or plasma of healthy and ill horses and cattle. By Demski. 1941. In German.	2.00
3885-3895 PB L 74189	The vitamin C content of the spinal fluid of healthy and ill cattle. By Gunther. 1940. In German.	1.50
3896-3910 PB L 74138	Contribution to the biology of the pathogenic agent of epizootic mouth and hoof disease which started in Germany in 1937. By Hölscher. 1939. In German.	1.50
3911-3950 PB L 74189	Examination of the withers and shoulder of horse. By Meier. 1911. In German.	4.00
3951-3972 PB L 74189	Effect of soluble barium salts on horses. By Metz. 1939. In German.	2.50
3973-3987 PB L 74189	Anatomical studies of two cases of amorphus in cow and goat. By Pusch. 1921. In German.	1.50
3988-4020 PB L 74189	Influence of osmotic pressure on the growth of enteritis bacteria in liquid culture medium. By Venske. 1940. In German.	3.50
4021-4037 PB L 74189	The spreading of rabies in former Poland. By Warrikoff. 1941. In German.	2.00
4038-4048 PB L 74189	Experiments for the treatment of chicken-pox with "Albucid" ointment. By Weldi. 1941. In German.	1.50
4049-4104 PB L 74189	Investigations on the influence of increasing doses of potassium and nitrogen on the crop, quality and durability of various vegetables and on the problem of the experimental technique in cultivating vegetables. By Buschhaus. 1941. In German.	6.00
4105-4202 PB L 74189	Significance of and duties in live-stock holding on farms, with special regard to the soil conditions in Luxembourg. By Colbach. 1941. In German.	10.00
4203-4311 PB L 74189	The most important stallion lines of Westphalian warm-blood stud-farms. By Haselon. 1941. In German.	11.00
4312-4380 PB L 74189	The Rheinland poultry breed-book and its importance for poultry breeding on farms. By Havermann. 1940. In German.	7.00
4381-4451 PB L 74189	Carrying-out the milk-marketing regulations in Munich, with special consideration of the distribution costs before and after the reorganisation of the marketing of milk. By Henning. 1941. In German.	7.50
4452-4493 PB L 74189	The significance of the basicity of blast furnace slag ("Huttenkalk") for its use as lime fertilizer. By Hoffmann. 1940. In German.	4.50
4494-4759 PB L 74189	Return to mechanical milking, with special consideration of economic problems. By Lampe. 1941. In German. Frames 4510-4609 and 4620-4719 are missing, without detracting from the completeness of this document.	7.00
4760-4776 PB L 74189	The serviceability of condensation products of cyanamide and urea with aldehydes, as fertilizer. By Lichtenberg. 1941. In German.	2.00
4777-4800 PB L 74189	Annual data of milk yields, when checked daily, every 7, 14, 21, and 28 days. By Meerpohl. 1941. In German.	2.50
4801-4887 PB L 74189	Absorption of ammonium nitrogen and nitrate nitrogen by plant embryos. By Nickolay. 1941. In German.	9.00
4888-4915 PB L 74189	Effect of lignite and humus substances prepared therefrom on the physical properties of light soil. By Pfingsten. 1939. In German.	3.00

PB L 80866. EYRING, C. F. Reverberation studies. Feb 1942. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

To date, the reverberation studies of the ocean have been limited to two frequencies - one and twenty-four kilocycles, in ocean depths as great as 600 fathoms. Early it became evident that one could not record at readable magnitudes the original signal and the reverberation at the same level. Accordingly, a mechanical and electrical keying mechanism was developed which permits the signal to be picked up under attenuation and the reverberation to be recorded with the attenuation removed. In this study conclusions are given on the data thus obtained.

Miscellaneous (contd)

PB L 22292-S. GERMANY. REICHSFÜHRER SS. AMT "AHNENERBE". Correspondence of concentration camps on procurement of material for research work. n. d. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

This is a supplement to a report of the same source as above, entitled "Correspondence of Dachau and Natzweiler concentration camps on procurement of material for research work" (PB 22292, vol. 2 of the Bibliography on page 422). In the present document the subjects for experimentation and the scientists entrusted with the experiments are given. Data on experiments with hay bacilli are attached.

PB L 70124. I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN-HÖCHST, GERMANY. Tables of German industrial standards. (FIAT Microfilm Reel O-7, Frames 7726-8468) 1940-1943. 742 f. Price: Microfilm-$6.00 - Enlargement print-$74.50

This reel was prepared by FIAT investigators in Germany. 31 individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
7726-7745 PB L 70124	German standards for tools. 1942-1943. In German.	$2.00
7746-7752 PB L 70124	German standards for the building industry. 1940. In German.	1.50
7753-7754 PB L 70124	German standards for the sugar industry. 1943. In German.	1.50
7755-7761 PB L 70124	German standards for woodworking machines. 1943. In German.	1.50
7762 PB L 70124	German standards for runner stones for paper production. 1942. In German.	1.50
7763-7794 PB L 70124	German standards for deep boring apparatus. 1943. In German.	3.50
7795 PB L 70124	Standard table concerning agricultural tractors. 1942. In German.	1.50
7796 PB L 70124	Standard table for sausage-stuffing machines. 1942. In German.	1.50
7797-7806 PB L 70124	German standards for tools. 1942. In German.	1.50
7807-7818 PB L 70124	German standards for railroading. 1942. In German.	1.50
7819-7827 PB L 70124	German standards for agricultural machines. 1940. In German.	1.50
7828-7832 PB L 70124	German standards for fire prevention. 1942. In German. Frames 7830 and 7832 will not reproduce well.	1.50
7833-7840 PB L 70124	German standards for housing construction. 1942. In German.	1.50
7841-7852 PB L 70124	German standards for locomotive construction. 1942. In German.	1.50
7853-8005 PB L 70124	German standards for electrical engineering. 1941-1943. In German.	5.50
8006-8154 PB L 70124	Summary of German standards for general machine construction. 1940-1942. In German. Frame 8041 will not reproduce well.	5.00
8155-8170 PB L 70124	German standards for the paper industry. 1943. In German.	2.00
8171-8209 PB L 70124	German standards for tools. 1940-1943. In German.	4.00
8210-8211 PB L 70124	German standards for window glass. 1943. In German.	1.50
8212-8267 PB L 70124	German standards for machine tools. 1942-1943. In German.	6.00
8268-8280 PB L 70124	German standards for steam boilers and pipe lines. 1943. In German.	1.50
8281-8284 PB L 70124	German standards for construction engineering. 1943. In German.	1.50
8285-8300 PB L 70124	German standards for tool manufacturing. 1940-1943. In German.	2.00
8301-8328 PB L 70124	German standards for the paper industry. 1943. In German.	3.00
8329-8345 PB L 70124	German standards for the ceramics industry. 1942. In German.	1.50
8346-8364 PB L 70124	German standards for machine construction. 1941-1942. In German.	2.00
8365-8387 PB L 70124	German standards for deep well boring technique. 1943. In German.	1.50
8388-8405 PB L 70124	German standards for the glass bottle industry. 1942. In German.	2.00
8406 PB L 70124	Standard table on case-hardening vessels. 1943. In German.	1.50
8407-8457 PB L 70124	German standards for general machine construction and tools. 1941-1943. In German.	5.50
8458-8468 PB L 70124	German standards for pressed materials. 1941-1943. In German.	1.50

PB L 70124-S. I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN-HÖCHST, GERMANY. Tables of German industrial standards. (FIAT Microfilm Reel O-7, Frames 7726-8468, abstract cards). 1940-1943. 31 p. Price: Microfilm-$1.00 - Photostat-$3.00

Brief abstracts of the individual items on the above reel O-7, PB 70124, prepared by FIAT personnel in Germany.

PB L 70125. I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN-HÖCHST, GERMANY. Tables of German industrial standards. (FIAT Microfilm Reel O 8, Frames 8469-9492) 1931-1942. 1023 F. Price: Microfilm-$6.00 - Enlargement print-$102.50.

This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
8469 PB L 70125	Standard tables. July 31, 1942. In German.	$ 1.50
8470-8472 PB L 70125	German navy standard tables. 1940. In German.	1.50
8473-8501 PB L 70125	Replacement standards of material for engine and ship building. 1940. In German.	3.00
8502-8507 PB L 70125	Standards for legends on drawings. 1938. In German.	1.50
8508-8851 PB L 70125	Standard tables for pipe lines. 1939-1941. In German.	35.00

Miscellaneous (contd)

8852-9137 PB L 70125	Standards for electrical engineering. 1940. In German.	29.00
9138-9156 PB L 70125	Standards for materials (metallic). 1941. In German.	2.00
9157-9158 PB L 70125	Table of groups of standards with ordinal numbers. 1937. In German.	1.50
9159-9205 PB L 70125	Standards for forms, drawings, etc. 1937-1940. In German.	4.50
9206-9207 PB L 70125	Light metals. 1937. In German.	1.50
9208-9213 PB L 70125	Electrical engineering. 1938. In German.	1.50
9214-9223 PB L 70125	Forms, drawings, etc. 1938. In German.	1.50
9224-9225 PB L 70125	Light metals. 1938. In German.	1.50
9226 PB L 70125	Triangular head screws. 1938. In German.	1.50
9227-9228 PB L 70125	Marking standards for gages. 1938. In German.	1.50
9229-9232 PB L 70125	Electrical engineering. 1938. In German.	1.50
9233-9234 PB L 70125	Roller bearings. 1938. In German.	1.50
9235-9236 PB L 70125	Standards for drawings of gages and implements. 1938. In German.	1.50
9237-9251 PB L 70125	Materials. 1939. In German.	1.50
9252-9271 PB L 70125	Barrack ovens (Reichsarbeitsdienst). 1942. In German.	2.00
9272-9293 PB L 70125	Steam boiler standards. 1942. In German.	2.50
9294-9297 PB L 70125	Welding of plastics. 1942. In German.	1.50
9298-9299 PB L 70125	Tropic testing of materials. 1941. In German.	1.50
9300-9303 PB L 70125	Vertical pipes for gas and electric lines. n. d. In German.	1.50
9304-9385 PB L 70125	Surveying practice. 1932. In German.	8.50
9386-9389 PB L 70125	Filling stations. 1937. In German.	1.50
9390-9428 PB L 70125	Production and use of house gas. 1933-1938. In German.	4.00
9429-9431 PB L 70125	Water meters. 1938. In German.	1.50
9432-9465 PB L 70125	Rules. 1936. In German.	1.50
9466-9484 PB L 70125	Printing industry. 1931. In German.	2.00
9485-9492 PB L 70125	Optics of spectacles. 1931. In German.	1.50

PB L 70125-S. I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN-HOCHST, GERMANY. Tables of German industrial standards. (FIAT Microfilm Reel O 8, Frames 8469-9492, abstract cards) 1931-1942. 31 p. Price: Microfilm-$1.00 - Photostat-$3.00.
Brief abstracts of the individual items on the above reel O 8, PB 70125, prepared by FIAT personnel in Germany.

PB L 74699. KARLSRUHE, GERMANY, TECHNISCHE HOCHSCHULE. Dissertations in natural sciences. (FIAT Microfilm Reel M 84, Frames 3543-4400) 1944. 858 f. Price: Microfilm-$6.00 - Enlargement print-$86.00.
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
3543-3573 PB L 74699	Studies on drying by means of atomizing. By C. Edeling. n.d. In German. These frames show only photographs, drawings and graphs pertaining to the above mentioned thesis, text of which is part of Reel M 83, PB 73451, made available in Vol. 7, page 66, of this Bibliography.	$ 3.50
3574-3735 PB L 74699	The influence of highly resistant steels on saving in weight and design in steel bridge engineering. By Otfried Erdmann. n. d. In German.	16.50
3736-3912 PB L 74699	Reproduction, true in color tone, of the relative color brightness in the photographic black and white method under the influence of different kinds of illumination with particular consideration of modern discharge lamps. By F. Ernst. n. d. In German.	18.00
3913-3980 PB L 74699	Oscillations of overflow weirs. By Exner. n. d. In German.	7.00
3981-4026 PB L 74699	Vapor table and Mollier's diagram for ammonia ranging up to the critical point. By Harald Funk. n. d. In German.	5.00
4027-4081 PB L 74699	General and special conditions of the velocity of insulation of the electron transmitter in the longitudinal field chamber. By Max Geiger. In German.	6.00
4082-4145 PB L 74669	Resistance coefficient and measuring errors of bellow gas meters with the flow of various gases. By Eberhard Hinze. n. d. In German.	6.50
4146-4182 PB L 74669	Investigations in petroleum bacteriology I. By Adelheid Müller. n. d. In German.	4.00
4183-4351 PB L 74669	Experimental and theoretical investigations for the development of a new type of roof-shaped weir. By Hans P. Müller. n. d. In German.	17.00
4352-4400 PB L 74669	Calculation of reinforced concrete road slabs for steel bridges. By Alfred Scheunert. n. d. In German. This report is continued in Reel M 85, PB L 73530, Frames 4401-4469.	5.00

PB L 81591. OSBOURNE, ALAN and others. Report on two German-built whaling factories: S.S. Terje Viken built in 1936 and S.S. Unitas built in 1937. n. d. 42 p. Price: Microfilm-$1.00 - Photostat-$3.00
In addition to the above report, this document also contains a comparison report of the Terje Viken and Unitas with the Balaena, a floating whaling-factory built at Belfast, Ireland in 1946. Tabulations and illustrations are included.

PATENTS

CHEMICALS AND ALLIED PRODUCTS

GER. PATENT 712389. SWITZERLAND. DURAND & HUGUENIN A.-G., BASEL. Process for preparing mordant diazo dyes. Ger. patent application D 72831 IVd/22a, dated May 29, 1936. Oct 17, 1941. 3 p.
Available in photostatic copies at the rate of 20¢ a page from the U. S. Patent Office, Washington 25, D. C.

PB L 70317. GERMANY. REICHSPATENTAMT. A collection of patents, 1884-1941. (FIAT Microfilm Reel BB 83, Frames 2846-4012) 1164 f. Price: Microfilm-$6.00 - Enlargement print-$116.50
This FIAT microfilm reel consists of reproductions of 528 patents in the field of organic chemistry. Individual patents are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
2846-2847 PB L 70317	I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN, GERMANY. Process for preparing nitro or amino compounds of pyroacridone. Class 12 p, group 1. Ger. patent 526 630, dated Sep 30, 1928. Inventor: Räth. In German.	$1.50
2848-2849 PB L 70317	I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN, GERMANY. Process for preparing condensation products which contain nitrogen. Class 12 p, group 1. Ger. patent 527 960, dated Nov 1, 1928. Inventors: Rötger and Schlecht. In German.	1.50
2850-2852 PB L 70317	I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN, GERMANY. Process for preparing N-methyl compounds of the pyridine series. Class 12 p, group 1. Ger. patent 532 396, dated Apr 20, 1929. Inventors: Ernst and Berndt. In German.	1.50
2853-2855 PB L 70317	I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN, GERMANY. Process for preparing anthrapyridone-N-fatty acids. Class 12 p, group 1. Ger. patent 497 411, dated Sep 25, 1927. Inventor: Stein. In German.	1.50
2856-2857 PB L 70317	SCHERING-KAHLBAUM A.G., BERLIN. Process for preparing salt-like compounds of 2-phenylquinoline-4-carboxylic acid and its derivatives. Class 12 p, group 1. Ger. patent 504 167, dated Jun 18, 1926. Inventors: Brugsch and Horsters. In German.	1.50
2858-2859 PB L 70317	SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing N-alkyl diiodochelidamic acids. Class 12 p, group 1. Ger. patent 545 916, dated Dec 19, 1930. Inventors: Dohrn and Diedrich. In German.	1.50
2860-2862 PB L 70317	I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN, GERMANY. Process for preparing ethers of 6,8-dihydroxyquinoline. Class 12 p, group 1. Ger. patent 490 419, dated Sep 19, 1926. Inventors: Mietzsch and Klös. In German.	1.50
2863-2864 PB L 70317	CHEMISCHE FABRIK VON HEYDEN A.G., RADEBEUL, DRESDEN, GERMANY. Process for preparing pyridine compounds. Class 12 p, group 1. Ger. patent 595 361, dated	
2865-2866 PB L 70317	RIEDEL, J. D. & HAEN, E. DE, A. G., BERLIN. Process for preparing a water-soluble complex salt of 8-hydroxyquinoline. Class 12 p, group 1, Ger. patent 595 516, dated Dec 10, 1932. In German.	1.50
2867 PB L 70317	FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, HÖCHST AM MAIN, GERMANY. Process for preparing pyridine derivatives. Class 12 p, group 1. Ger. patent 79 863, dated Nov 12, 1893. In German.	1.50
2868-2870 PB L 70317	BOEHRINGER, C. H., SOHN A.G., NIEDER INGELHEIM, GERMANY. Process for preparing ketones of the pyridine and quinoline series. Class 12 p, group 1, Ger. patent 594 849, dated May 11, 1928. Inventors: Scheunig and Winterhalder. In German.	1.50
2871-2872 PB L 70317	SCHÜBEL, KONRAD. Process for preparing salts of 2-phenylquinoline-4-carboxylic acid salicylic ester. Class 12 p, group 1. Ger. patent 666 645, dated Apr 30, 1936. Inventors: Scheunig and Winterhalder. In German.	1.50
2873 PB L 70317	FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, HÖCHST AM MAIN, GERMANY. Process for preparing p-hydroxy-γ-phenylquinaldine. Class 12 p, group 1. Ger. patent 79 871, dated Apr 5, 1894. In German.	1.50
2874-2877 PB L 70317	I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN, GERMANY. Process for preparing halogenated pyridine anthraquinones. Class 12 p, group 1. Ger. patent 565 968, dated Jan 29, 1931. Inventors: Kunz and others. In German.	1.50
2878-2880 PB L 70317	I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN, GERMANY. Process for preparing quinaldines. Class 12 p, group 1. Ger. patent 567 273, Dated Jul 18, 1931. Inventors: Kunz and others. In German.	1.50
2881-2882 PB L 70317	KÖNIGS, ERNST and GREINER, HEINZ (Inventors). Process for preparing pyridine derivatives. Class 12 p, group 1. Ger. patent 566 693, dated Apr 28, 1931. In German. Supplement to patent 536 891.	1.50
2883-2884 PB L 70317	SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing 2-hydroxy-pyridine-5-stibic acid. Class	

12 p, group 1, Ger. patent 530 495, dated Jul 1, 1924. Inventors: Binz and Räth. In German. 1.50
Supplement to patent 528 113.

2885 PB L 70317 SCHERING-KAHLBAUM A.G., BERLIN. Process for preparing N-substituted chelidamic acids. Class 12 p, group 1. Ger. patent 554 950, dated Apr 26, 1931. Inventors: Dohrn and Diedrich. In German. 1.50

2886-2887 PB L 70317 FIRMA CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing 2-phenyl-4-aminoethyl quinoline. Class 12 p, group 1. Ger. patent 421 087, dated Nov 19, 1922. Inventors: Dohrn and Zöllner. In German. 1.50

2888-2889 PB L 70317 KÜLKE, KURT and CLOTOFSKI, FRITZ (Inventors). Process for preparing di- and polypiperidyls. Class 12 p, group 1. Ger. patent 420 445, dated Apr 20, 1924. In German. 1.50

2890-2891 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN. Process for preparing 5,6-dialkoxy-8-aminoquinolines. Class 12 p, group 1. Ger. patent 531 083, dated Feb 18, 1930. Inventor: Schönhöfer. In German. 1.50

2892 PB L 70317 FIRMA CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing quinoline-4-aldehyde and its derivatives arylated in 2-position. Class 12 p, group 1. Ger. patent 421 088, dated Dec 2, 1922. Inventors: Dohrn and Zöllner. In German. 1.50

2893-2895 PB L 70317 DEUTSCHE GOLD- UND SILBER-SCHEIDEANSTALT VORM. RÖSSLER, FRANKFURT AM MAIN, GERMANY. Process for preparing pyridine carboxylic acids. Class 12 p, group 1, Ger. patent 740 103, dated Nov 2, 1940. Inventors: Fuchs and Stitz. In German. 1.50

2896-2897 PB L 70317 FIRMA E. MERCK, DARMSTADT, GERMANY. Process for preparing derivatives of 1-phenyl- or 1-benzyl-3-methyl-isoquinoline. Class 12 p, group 1. Ger. patent 556 709, dated Nov 7, 1930. Inventors: Wolfes and Dobrowsky. In German. 1.50

2898 PB L 70317 SCHERING-KAHLBAUM A.G., BERLIN. Process for preparing 3,5-diiodo-4-pyridone. Class 12 p, group 1, Ger. patent 556 142, dated Feb 12, 1931. Inventors: Dohrn and Diedrich. In German. 1.50

2899-2900 PB L 70317 I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN, GERMANY. Process for preparing derivatives of 3-aminoacridine. Class 12 p, group 1, Ger. patent 555 934, dated Oct 18, 1930. Inventors: Mietzsch and others. In German. 1.50

2901-2902 PB L 70317 BÖHRING, C. H., SOHN A. G., NIEDER INGELHEIM, GERMANY. Process for preparing pyridine and piperidine alkalines. Class 12 p, group 1. Ger. patent 555 240, dated Jun 2, 1928. Inventors: Scheunig and Winterhalder. In German. 1.50

2903 PB L 70317 WINTERFELD, KARL (Inventor). Process for preparing a complex salt from acridine oxalate and oxalic acid. Class 12 p, group 1. Ger. patent 555 171, dated Apr 16, 1930. In German. 1.50
Supplement to patent 553 281.

2904-2905 PB L 70317 KÖNIGS, ERNST and GREINER, HEINZ (Inventors). Process for preparing pyridine derivatives. Class 12 p, group 1. Ger. patent 554 702, dated Mar 5, 1930. In German. 1.50
Supplement to patent 536 891.

2906-2907 PB L 70317 SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing o-alkyl diiodochelidamic acid. Class 12 p, group 1. Ger. patent 553 823, dated Jul 11, 1931. Inventors: Dohrn and Diedrich. In German. 1.50

2908 PB L 70317 WINTERFELD, KARL (Inventor). Process for preparing acridine salts of citric acid. Class 12 p, group 1. Ger. patent 553 281, dated Nov 5, 1929. In German. 1.50

2909-2913 PB L 70317 CHEMISCHE FABRIK VORMALS SANDOZ, BASEL, SWITZERLAND. Process for preparing anthrapyridone derivatives. Class 12 p, group 1. Ger. patent 580 283, dated Apr 30, 1931. In German. 1.50
Supplement to patent 578 995.

2914-2915 PB L 70317 HOFFMANN, F. & LA ROCHE & CO. A.G., BASEL, SWITZERLAND. Process for preparing 4-hydroxyquinoline-2-carboxylic acid. Class 12 p, group 1. Ger. patent 575 534, dated Sep 29, 1931. In German. 1.50

2916-2918 PB L 70317 FIRMA JOHANN A. WÜLFING, BERLIN. Process for preparing alkyl esters of 2-phenylquinoline-4-carboxylic acid and their homologues alkyl-substituted in the benzene nucleus. Class 12 p, group 1. Ger. patent 575 912, dated Feb 22, 1928. In German. 1.50

2919-2920 PB L 70317 I. G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Process for preparing quinoline sulfonic acids which are partially hydrogenated. Class 12 p, Group 1, Ger. patent 573 540, dated Jul 28, 1931. Inventors: Nicodemus and Wulff. In German. 1.50

2921-2922 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing piperidine and its derivatives. Class 12 p, group 1. Ger. patent 574 137, dated Aug 12, 1925. Inventors: Stolz and others. In German. 1.50

2923-2926 PB L 70317 WIBAUT, JOHAN PIETER and DEN HERTOG, HERMAN JOHANNES, JR. (Inventors). Process for preparing halogenated pyridine derivatives. Class 12 p, group 1. Ger. patent 574 655, dated Apr 22, 1932. In German. 1.50

2927-2928 PB L 70317 CHEMISCH-PHARMAZEUTISCHE A. G., BAD HOMBURG, FRANKFURT AM MAIN, GERMANY. Process for preparing derivatives of 1-benzyl isoquinoline. Class 12 p, group 1. Ger. patent 574 656, dated Aug 2, 1930. In German. 1.50

2929-2931
PB L 70317
CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing derivatives of monohalogen-N-alkyl-2-pyridones. Class 12 p, Group 1. Ger. patent 574 839, dated Jun 11, 1932. Inventor: Haack. In German. 1.50

2932-2933
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing 2-methyl-5-hydroxypiperidine. Class 12 p, group 1. Ger. patent 568 759, dated Oct 27, 1929. Inventors: Nicodemus and Wulff. In German. 1.50

2934-2935
PB L 70317
DEUTSCHE GOLD- UND SILBER-SCHEIDEANSTALT VORM. ROESSLER, FRANKFURT AM MAIN, GERMANY. Process for preparing heterocyclic bases. Class 12 p, group 1. Ger. patent 569 630, dated Oct 11, 1931. In German. 1.50
Supplement to patent 565 798.

2936-2937
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing easily soluble derivatives of pyridine derivatives. Class 12 p, group 1. Ger. patent 570 860, dated Oct 16, 1931. Inventor: Reitzmann. In German. 1.50

2938
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing 3-hydroxypiperidine. Class 12 p, group 1. Ger. patent 571 227, dated Nov 4, 1931. Inventors: Nicodemus and Wulff. In German. 1.50
Supplement to patent 568 759.

2939-2942
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing acridine derivatives. Class 12 p, group 1. Ger. patent 571 449, dated Nov 2, 1930. Inventors: Mauss and Mietzsch. In German. 1.50

2943-2944
PB L 70317
ROJAHN, CARL AUGUST (Inventor). Process for preparing easily soluble salts of phenylquinoline carboxylic acid. Class 12 p, group 1. Ger. patent 586 335, dated Nov 28, 1931. In German. 1.50
Supplement to patent 582 320.

2945-2946
PB L 70317
CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing pyridine derivatives containing basic groups. Class 12 p, group 1. Ger. patent 586 879, dated Jan 21, 1932. Inventor: Maier-Bode. In German. 1.50

2947-2948
PB L 70317
DEUTSCHE GOLD- UND SILBER-SCHEIDEANSTALT VORM. ROESSLER, FRANKFURT AM MAIN, GERMANY. Process for preparing condensation products of pyridine. Class 12 p, group 1. Ger. patent 588 041, dated Sep 1, 1931. Inventor: Schulenburg. In German. 1.50

2949-2950
PB L 70317
KALI-CHEMIE A. G., BERLIN. Process for preparing thiocyanates of heterocyclic quaternary ammonium bases. Class 12 p, group 1. Ger. patent 589 331, dated Apr 13, 1932. Inventors: Jungmann and Rölke. In German. 1.50

2951-2955
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing quaternary derivatives of heterocyclic nitrogen compounds. Class 12 p, group 1. Ger. patent 590 239, dated Aug 19, 1931. Inventors: Schönhöfer and Henecka. In German. 1.50

2956-2958
PB L 70317
CHICHIBABIN, ALEXEI EVGENEVICH (Inventor). Process for preparing amino substitution products of the pyridine and quinoline series. Class 12 p, group 1. Ger. patent 374 291, dated Mar 24, 1914. In German. 1.50

2959-2960
PB L 70317
CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing 4-aminoquinolines acylated in 2-position and their derivatives. Class 12 p, group 1. Ger. patent 375 715, dated Feb 17, 1921. Inventors: Dohrn and Zöllner. In German. 1.50

2961-2962
PB L 70317
CASSELLA, LEOPOLD, & CO. G.M.B.H., FRANKFURT AM MAIN, GERMANY. Process for preparing oil- and fat-soluble salts of acridine compounds. Class 12 p, group 1. Ger. patent 375 790, dated Jul 20, 1920. Inventor: Benda. In German. 1.50

2963-2964
PB L 70317
LÖWE, SIEGFRIED (Inventor). Process for preparing derivatives of quinoline. Class 12 p, group 1. Ger. patent 380 918, dated Jul 12, 1917. In German. 1.50

2965
PB L 70317
CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing 2-hydroxynitropyridines. Class 12 p, group 1. Ger. patent 360 420, dated May 29, 1920. Inventors: Dohrn and Horstere. In German. 1.50

2966-2967
PB L 70317
FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, HÖCHST, GERMANY. Process for preparing acridine derivatives. Class 12 p, group 1. Ger. patent 360 421, dated Jul 9, 1919. In German. 1.50

2968-2969
PB L 70317
CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing 2-aminopyridine. Class 12 p, group 1. Ger. patent 362 446, dated Mar 13, 1920. In German. 1.50

2970-2972
PB L 70317
TETRALIN G.M.B.H., BERLIN. Process for preparing polycyclic derivatives of 2-phenylquinoline-4-carboxylic acid and its derivatives substituted in the benzene nucleus of the quinoline radical. Class 12 p, group 1. Ger. patent 362 539, dated Oct 30, 1920. In German. 1.50

2973-2974
PB L 70317
FIRMA BEHRINGWERKE AKTIENGESELLSCHAFT, MARBURG, GERMANY. Process for preparing a bismuth complex compound of the quinoline series which dissolves easily in water. Class 12 p, group 1. Ger. patent 415 095, dated Aug 3, 1923. Inventors: Krollpfeiffer and Kohlhase. In German. 1.50

2975-2976
PB L 70317
BINZ, ARTHUR (Inventor). Process for preparing arsinic acids of the pyridine series which are substituted on the nitrogen. Class 12 p, group 1. Ger. patent

556 733, dated Sep 22, 1931. In German. 1.50

2977-2978 PB L 70317 — Identical with frames 2975-2976, above.

2979-2980 PB L 70317 — BIEL, ARTHUR and RITH, CURT (Inventors). Process for preparing pyridine arsinic acids. Class 12 p, group 1. Ger. patent 536 424, dated Mar 8, 1927. In German. 1.50

2981-2982 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing salts of aminoacridine compounds. Class 12 p, group 1. Ger. patent 557 250, dated May 5, 1931. Inventor: Benda. In German. 1.50

2983-2992 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing quinoline and acridine compounds which contain in the nucleus a benzothiazolyl, benzoxazolyl or benzimidazolyl group and a primary, secondary or tertiary amino group. Class 12 p, group 1. Ger. patent 533 691, dated Jun 11, 1929. Inventor: Jensch. In German. 1.50

2993-2994 PB L 70317 — KNOLL & CO. CHEMISCHE FABRIK, LUDWIGSHAFEN, GERMANY. Process for preparing derivatives of 2-methylquinoline (quinaldine). Class 12 p, group 1, Ger. patent 363 582, dated Jan 20, 1921. In German. 1.50

2995-2997 PB L 70317 — RIEDEL, J. D. & HAEN, E. DE, A. G., BERLIN-BRITZ. Process for preparing polycyclic bases. Class 12 p, group 1. Ger. patent 532 397, dated Apr 23, 1929. In German. 1.50

2998-2999 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing hydroxybenzoquinoline carboxylic acids. Class 12 p, group 1, Ger. patent 571 832, dated Mar 26, 1931. Inventors: Laska and Haller. In German. 1.50

3000-3002 PB L 70317 — BÖHRINGER, C. H., SOHN A. G., NIEDER INGELHEIM, GERMANY. Process for preparing Lobelia alkaloids. Class 12 p, group 1, Ger. patent 532 535, dated Jun 30, 1928. Inventors: Scheunig and Winterhalder. In German. 1.50

3003-3004 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing quinolinic acids. Class 12 p, group 1. Ger. patent 537 365, dated Aug 13, 1930. Inventors: Streitwolf and others. In German. 1.50

3005 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing a salt of 4-hydroxy-3-acetylaminobenzene-1-arsinic acid. Class 12 p, group 1. Ger. patent 550 640, dated May 27, 1930. Inventors: Bockmühl and others. In German. 1.50

3006-3007 PB L 70317 — SCHERING-KAHLBAUM A. G., BERLIN. Process for hydrogenating bases of the pyridine and quinoline series. Class 12 p, group 1, Ger. patent 590 637, dated Nov 30, 1928. In German. 1.50

3008-3009 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing monoacyldiaminoacridines. Class 12 p, group 1. Ger. patent 550 934, dated Feb 10, 1931. Inventor: Schmidt. In German. 1.50
Supplement to patent 546 661.

3010-3011 PB L 70317 — CHEMISCHE FABRIK VON HEYDEN A.G., RADEBEUL, DRESDEN, GERMANY. Process for preparing quaternary compounds of methylchlorides added to pyridine, quinoline, or isoquinoline compounds. Class 12 p, group 1. Ger. patent 593 670, dated Aug 3, 1932. Inventor: Haack. In German. 1.50

3012-3013 PB L 70317 — SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing diiodochelidamic acid. Class 12 p, group 1. Ger. patent 545266, dated Oct 8, 1930. Inventors: Dohrn and Diedrich. In German. 1.50

3014-3015 PB L 70317 — ADLER, OSCAR and ADLER, RUDOLF (Inventors). Process for preparing complex compounds of the salts of phenylquinoline carboxylic acids with 1-phenyl-2,3-dimethyl-4-dimethylamino-5-pyrazolone or 1-phenyl-2,3-dimethyl-5-pyrazolone. Class 12 p, group 1. Ger. patent 547 175, dated Jan 31, 1930. In German. 1.50
Supplement to patent 541 035.

3016-3017 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing 1,6-diaminoacridine derivatives alkylated on the aminonitrogen. Class 12 p, group 1. Ger. patent 545 914, dated Feb 13, 1929. Inventors: Schmidt and Hartmuth. In German. 1.50

3018-3019 PB L 70317 — I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing antiknock motor fuels from lignite. Class 12 p, group 1. Ger. patent 554 366, dated Nov 27, 1926. In German. 1.50

3020-3022 PB L 70317 — CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing 2-alkoxy-5-nitropyridines. Class 12 p, group 1. Ger. patent 568 549, dated Jan 12, 1932. Inventor: Haack. In German. 1.50

3023-3025 PB L 70317 — BÖHRINGER, C. H., SOHN A.G., NIEDER INGELHEIM, GERMANY. Process for preparing piperidine ketones and piperidine keto-alcohols. Class 12 p, group 1, Ger. patent 557 813, dated Jun 22, 1928. Inventors: Scheunig and Winterhalder. In German. 1.50
Supplement to patent 555 240.

3026-3027 PB L 70317 — TECHNICAL RESEARCH WORKS LIMITED, LONDON. Process for preparing piperidine and its homologues. Class 12 p, group 1. Ger. patent 558 566, dated Jun 7, 1928. In German. 1.50

3028 PB L 70317 — HOJAHN, CARL AUGUST (Inventor). Process for preparing easily soluble salts of phenylquinoline carboxylic acids. Class 12 p, group 1. Ger. patent 582 320, dated Nov 28, 1931. In German. 1.50

3029-3030 — SCHERING-KAHLBAUM A. G., BERLIN.

PB L 70317 Process for preparing derivatives of 5,5'-diamino-6,6'-dihydroxy-1,1'-arsenopyridine, which are easily soluble in water. Class 12 p, group 1. Ger. patent 546 144, dated Apr 13, 1929. Inventors: Binz and Räth. In German. 1.50

3031-3035 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing urea derivatives of the heterocyclic series, with a quaternary nitrogen atom in the ring. Class 12 p, group 1. Ger. patent 583 207, dated Aug 19, 1931. Inventors: Schönhöfer and Henecka. In German. 1.50

3036 PB L 70317 BINZ, ARTHUR and RÄTH, CURT (Inventors). Process for preparing arsenic compounds of the pyridine series. Class 12 p, group 1. Ger. patent 525090, dated Mar 8, 1927. In German. 1.50

3037 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing 2-nitroacridine. Class 12 p, group 1. Ger. patent 545 265, dated Dec 23, 1930. Inventor: Haller. In German. 1.50

3038-3039 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing complex compounds of salts of 3,6-diamino-10-alkylacridinium. Class 12 p, group 1. Ger. patent 526 086, dated Nov 27, 1929. Inventors: Schranz and Müller. In German. 1.50

3040 PB L 70317 CHINOSOL-FABRIK A. G., HAMBURG-BILLBROOK, GERMANY. Process for preparing 8-acetylhydroxyquinoline-7-carboxylic acid. Class 12 p, group 1. Ger. patent 540 842, dated Aug 6, 1930. In German. 1.50

3041-3042 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing 4)-aminoalkyl derivatives of quinoline. Class 12 p, group 1. Ger. patent 497 907, dated May 8, 1927. Inventor: Bartholomäus. In German. 1.50

3043-3046 PB L 70317 SCHRÖTER, GEORG (Inventor). Process for preparing 2,4-dihydroxypyridine-3-carboxylonitrile and its derivatives. Class 12 p, group 1. Ger. patent 515 991, dated Jan 18, 1927. In German. 1.50

3047-3048 PB L 70317 BÖHRINGER, C. F., & SÖHNE G.M.B.H., MANNHEIM-WALDHOF, GERMANY. Process for preparing pure phenylazo-2,6-diaminopyridine monohydrochloride. Class 12 p, group 1. Ger. patent 515 781, dated Nov 5, 1927. In German. 1.50

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3055-3056 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing organic bases. Class 12 p, group 1. Ger. patent 495 337, dated Sep 3, 1927. Inventor: Nicodemus. In German. 1.50
Supplement to patent 479 351.

3057-3058 PB L 70317 SCOTTISH DYES LTD., GRANGEMOUTH, STIRLING, SCOTLAND. Process for preparing sulfuric anhydride compounds of the pyridine and quinoline series. Class 12 p, group 1. Ger. patent 535 147, dated Jan 17, 1929. In German. 1.50

3059-3060 PB L 70317 SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing aminopyridine compounds. Class 12 p, group 1. Ger. patent 510 432, dated Mar 8, 1927. Inventor: Räth. In German. 1.50

3061-3062 PB L 70317 CASSELLA, LEOPOLD, & CO. G.M.B.H., FRANKFURT AM MAIN, GERMANY. Process for preparing acridinium compounds. Class 12 p, group 1. Ger. patent 408 868, dated Feb 15, 1923. Inventors: Benda and Sievers. In German. 1.50

3063 PB L 70317 CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing a condensation product from 2-aminopyridine. Class 12 p, group 1. Ger. patent 406 207, dated Dec 29, 1922. Inventors: Dohrn and Horsters. In German. 1.50

3064-3065 PB L 70317 CHICHIBABIN, A. E. (Inventor). Process for preparing hydroxy derivatives of pyridine, quinoline, their homologues and other bases containing the pyridine nucleus. Class 12 p, group 1. Ger. patent 406 208, dated Aug 16, 1922. In German. 1.50

3066-3067 PB L 70317 CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing 2-amino-5-chloropyridine and 2-amino-3,5-dichloropyridine. Class 12 p, group 1. Ger. patent 400 191, dated Dec 29, 1922. Inventors: Dohrn and Horsters. In German. 1.50

3068-3073 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing N-substituted 2-alkoxy-6-halogen-9-aminoacridines. Class 12 p, group 1, Ger. patent 553 072, dated May 10, 1930. Inventors: Mietzsch and Mauss. In German. 1.50

3074 PB L 70317 RIEDEL, J. D. & HAEN, E. DE, A. G., BERLIN-BRITZ. Process for preparing 5-chloro-8-hydroxyquinoline sulfonic acid. Class 12 p, group 1. Ger. patent 552 920, dated Mar 7, 1931. In German. 1.50

3075-3076 PB L 70317 FIRMA E. MERCK, DARMSTADT, GERMANY. Process for preparing derivatives of 1-benzyl-3-methyl-isoquinoline. Class 12 p, group 1. Ger. patent

551 870, dated Nov 9, 1930. Inventor: Wolfes. In German. 1.50

3077-3078 PB L 70317 GESELLSCHAFT FÜR TEERVERWERTUNG M.B.H., DUISBURG-MEIDERICH, GERMANY. Process for desulfurizing pyridine bases obtained from coal tar. Class 12 p, group 1. Ger. patent 551 606, dated Oct 22, 1929. Inventors: Gruber and Schmitt. In German. 1.50

3079-3080 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing quinoline-5-azo compounds of the quinine series. Class 12 p, group 1. Ger. patent 551 094, dated Aug 9, 1931. Inventors: Giemsa and others. In German. 1.50

3081-3085 PB L 70317 GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, SWITZERLAND. Process for preparing N-substituted compounds of the pyridone series. Class 12 p, group 1. Ger. patent 551 029, dated Mar 22, 1930. In German. 1.50

3086-3087 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing nitrogenous condensation products from acetylene and ammonia. Class 12 p, group 1. Ger. patent 503 133, dated Nov 18, 1927. Inventors: Schlecht and Rötger. In German. 1.50

3088-3089 PB L 70317 RIEDEL, J. D. & HAEN, H. DE, A. G., BERLIN-BRITZ. Process for preparing polycyclic bases. Class 12 p, group 1. Ger. patent 537 187, dated Apr 23, 1929. In German. 1.50

3090-3091 PB L 70317 SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing dihalogen substituted 2-arylquinoline-4-carboxylic acids. Class 12 p, group 1. Ger. patent 505 160, dated Apr 2, 1926. Inventors: Dohrn and Thiele. In German. 1.50

3092-3093 PB L 70317 SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing 2-arylquinoline-4-carboxylic acids substituted with more than two halogen atoms. Class 12 p, group 1. Ger. patent 506 349, dated May 23, 1926. Inventors: Schöller and others. In German. 1.50

3094-3096 PB L 70317 BÖHRINGER, C. F., G.M.B.H., MANNHEIM-WALDHOF, GERMANY. Process for preparing N-substituted anthranilic acid derivatives. Class 12 p, group 1. Ger. patent 406 148, dated Jul 21, 1921. Inventor: Rothmann. In German. 1.50

3097 PB L 70317 CHEMISCHE FABRIK (VORM. E. SCHERING), BERLIN. Process for preparing hydrazopyridine. Class 12 p, group 1. Ger. patent 406 205, dated Nov 18, 1922. Inventor: Rothmann. In German. 1.50

3098-3099 PB L 70317 CHEMISCHE FABRIK AUF AKTIEN (VORM. E. SCHERING), BERLIN. Process for preparing acidyl derivatives of 2-aminopyridine and its derivatives. Class 12 p, group 1. Ger. patent 406 206, dated Dec 28, 1922. Inventors: Dohrn and Horsters. In German. 1.50

3100 PB L 70317 BADISCHE ANILIN-& SODA-FABRIK, LUDWIGSHAFEN, GERMANY. Process for preparing an anthracene derivative. Class 12 p, group 1. Ger. patent 361 180, dated Oct 27, 1921. Inventor: Hopff. In German. 1.50

3101 PB L 70317 CHEMISCHE FABRIK AUF AKTIEN (VORM. E. SCHERING), BERLIN. Process for preparing alkyl homologues of pyridine. Class 12 p, group 1. Ger. patent 390 333, dated May 21, 1922. Inventors: Dohrn and Horsters. In German. 1.50

3102-3103 PB L 70317 CASSELLA, LEOPOLD, & CO. G.M.B.H., FRANKFURT AM MAIN, GERMANY. Process for preparing alkoxyacridines. Class 12 p, group 1. Ger. patent 392 066, dated May 25, 1922. Inventors: Benda and Schmidt. In German. 1.50

3104-3105 PB L 70317 FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, HÖCHST, GERMANY. Process for preparing acridine derivatives. Class 12 p, group 1. Ger. patent 393 411, dated Oct 11, 1921. Inventors: Mack and Fehrle. In German. 1.50
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3106-3107 PB L 70317 CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing homologues of 2-aminopyridine. Class 12 p, group 1. Ger. patent 398 204, dated Jul 31, 1921. Inventors: Horsters and Dohrn. In German. 1.50

3108-3109 PB L 70317 FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, HÖCHST, GERMANY. Process for preparing acridine derivatives. Class 12 p, group 1. Ger. patent 395 683, dated Feb 12, 1922. In German. 1.50
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3110 PB L 70317 SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing 5-iodo-2-aminopyridine. Class 12 p, group 1. Ger. patent 473 213, dated Apr 13, 1927. Inventor: von Schickh. In German. 1.50

3111-3112 PB L 70317 SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing di- and polyiodine substitution products of quinoline carboxylic acids. Class 12 p, group 1. Ger. patent 472 821, dated May 23, 1926. Inventors: Dohrn and Thiele. In German. 1.50

3113 PB L 70317 DEUTSCHE GOLD- UND SILBER-SCHEIDE-ANSTALT VORMALS ROESSLER, FRANKFURT AM MAIN, GERMANY. Process for preparing 2-aminopyridine. Class 12 p, group 1. Ger. patent 476 458, dated Dec 17, 1925. Inventor: Vieweg. In German. 1.50

3114-3115 PB L 70317 SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing derivatives of 2,2'-dipyridylamine. Class 12 p, group 1. Ger. patent 479 282, dated Nov 5, 1925. Inventors: Dohrn and Diedrich. In German. 1.50
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3116-3117 PB L 70317 SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing halogen-substituted quinoline carboxylic acids. Class 12 p, group 1. Ger. patent 481 179, dated Apr 1, 1927. Inventors: Dohrn and Thiele. In German. 1.50

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3120-3121
PB L 70317
MERCK, E., CHEMISCHE FABRIK, DARMSTADT, GERMANY. Process for preparing N-methyl-Δ-1,4-tetrahydropyridine-3-carboxylic acid (arecaidine) and its methylester. Class 12 p, group 1. Ger. patent 485 139, dated Jul 23, 1926. Inventor: Maeder. In German. 1.50

3122-3123
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I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing 8-hydroxyquinoline and its derivatives. Class 12 p, group 1. Ger. patent 485 315, dated Sep 19, 1926. Inventors: Mietzsch and Klös. In German. 1.50

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PB L 70317
BÖHRINGER, C. H., SOHN, NIEDER INGELHEIM, GERMANY. Process for preparing 2-phenylquinoline-4-carboxylic acid. Class 12 p, group 1. Ger. patent 485 426, dated Feb 7, 1926. Inventor: Häusseler. In German. 1.50

3126-3127
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CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing 4-pyridylpyridinium dibromide. Class 12 p, group 1. Ger. patent 600 499, dated Dec 25, 1932. Inventor: Haack. In German. 1.50
Supplement to patent 598 879.

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PB L 70317
KEIL, FRIEDRICH and DOHKE, WERNER (Inventors). Process for preparing ketones of 2-(β-pyridyl)-pyrroles. Class 12 p, group 1. Ger. patent 748 459, dated Oct 9, 1940. In German. 1.50

3130-3132
PB L 70317
KNOLL A. G. CHEMISCHE FABRIKEN, LUDWIGSHAFEN, GERMANY. Process for preparing alkenylquinoline-4-carboxylic acids and their salts. Class 12 p, group 1. Ger. patent 747 472, dated Jul 19, 1941. Inventor: Wolf. In German. 1.50

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I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing quaternary heterocyclic nitrogenous compounds. Class 12 p, group 1. Ger. patent 745 559, dated Dec 22, 1933. Inventors: Hahl and others. In German. 1.50

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PB L 70317
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Supplement to patent 486 079.

3145-3146
PB L 70317
CHICHIBABIN, A. E. (Inventor). Process for preparing derivatives (alkylated in the amino group) of aminopyridines, their homologues and substitution products. Class 12 p, group 1. Ger. patent 489 184, dated Jun 6, 1928. In German. 1.50

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PB L 70317
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3148-3149
PB L 70317
SCHERING A. G., BERLIN. Process for preparing pyridine derivatives containing basic groups in 2- and 3-position. Class 12 p, group 1. Ger. patent 667 219, dated Aug 22, 1936. Inventor: von Schickh. In German. 1.50

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I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing pyridine derivatives. Class 12 p, group 1. Ger. patent 702 830, dated Feb 22, 1939. Inventor: Westphal. In German. 1.50

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I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing pyridine derivatives. Class 12 p, group 1. Ger. patent 702 829, dated Jan 28, 1939. Inventors: Westphal and Andereag. In German. 1.50

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PB L 70317
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CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing derivatives of 2-piperonylquinoline-4-carboxylic acid and its homologues. Class 12 p, group 1. Ger. patent 281 097, dated May 30, 1913. In German. 1.50
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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing derivatives of 4-arylpiperidine-4-carboxylic acid. Class 12 p, group 1. Ger. patent 695 216, dated Jan 15, 1939. Inventor: Eisleb. In German. 1.50

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PB L 70317
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PB L 70317
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KALLE & CO., BIEBRICH, GERMANY. Process for preparing meso-iodoacridine. Class 12 p, group 1. Ger. patent 126 795, dated Jul 6, 1900. In German. 1.50

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ULLMANN, FRITZ (Inventor). Process for preparing derivatives of naphthacridine. Class 12 p, group 1. Ger. patent 123 260, dated Jan 25, 1899. In German. 1.50
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KALLE & CO., BIEBRICH, GERMANY. Process for preparing mesochloro- and mesobromoacridine. Class 12 p, group 1. Ger. patent 122 607, dated Jun 19, 1900. In German. 1.50

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CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing homologues and substitution products of 2-piperonylquinoline-4-carboxylic acid. Class 12 p, group 1. Ger. patent 281 603, dated Jul 9, 1912. In German. 1.50

3175-3176
PB L 70317
CHEMISCHE WERKE GRENZACH ACTIEN-GESELLSCHAFT, GRANZACH, GERMANY. Process for preparing derivatives of hydrogenated 2-phenylquinoline-4-carboxylic acid. Class 12 p, group 1. Ger. patent 351 464, dated Dec 18, 1917. In German. 1.50

3177-3178
PB L 70317
ZUCKMAYER, FRITZ (Inventor). Process for preparing substitution products of hydrogenated 2-phenylquinoline-4-carboxylic acid and its salts. Class 12 p, group 1. Ger. patent 344 501, dated Nov 8, 1916. In German. 1.50
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BADISCHE ANILIN & SODA FABRIK, LUDWIGSHAFEN, GERMANY. Process for preparing nitrogenous condensation products of the anthraquinone series. Class 12 p, group 1. Ger. patent 216 597, dated Aug 28, 1908. In German. 1.50
Supplement to patent 212 204, dated May 14, 1907.

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CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing arylesters of 2-phenylquinoline-4-carboxylic acid. Class 12 p, group 1. Ger. patent 244 766, dated Mar 1, 1911. In German. 1.50

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PB L 70317
KAUFMANN, A. (Inventor). Process for preparing condensation products of the pyridine, quinoline, isoquinoline and acridine series. Class 12 p, group 1. Ger. patent 243 078, dated Jan 4, 1911. In German. 1.50

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PB L 70317
CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing 2-ar-tetrahydronaphthylquinoline-4-carboxylic acids. Class 12 p, group 1. Ger. patent 344 027, dated Jul 24, 1920. Inventors: Rede and Freund. In German. 1.50

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PB L 70317
MERCK, E., CHEMISCHE FABRIK, DARMSTADT, GERMANY. Process for preparing hydrogenated N-alkylpyridine-4-carboxylic esters. Class 12 p, group 1. Ger. patent 344 028, dated Apr 13, 1920. In German. 1.50

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PB L 70317
FIRMA L. GIVAUDAN, VERNIER and KAUFMANN, ADOLF, GENF, SWITZERLAND. Process for preparing 2-cyanoquinoline and 4-cyanoquinoline. Class 12 p, group 1. Ger. patent 280 973, dated Jun 20, 1913. In German. 1.50

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PB L 70317
WOLFFENSTEIN, RICHARD (Inventor). Process for preparing esters of 8-hydroxyquinoline. Class 12 p, group 1. Ger. patent 281 007, dated Jun 5, 1913. In German. 1.50

3193-3194
PB L 70317
DECKER, HERMANN (Inventor). Process for preparing tetraisoquinoline derivatives. Class 12 p, group 1. Ger. patent 281 213, dated Feb 2, 1912. In German. 1.50
Supplement to patent 270 859.

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MERCK, E., CHEMISCHE FABRIK, DARMSTADT, GERMANY. Process for preparing N-alkylpyridine carboxylic esters. Class 12 p, group 1. Ger. patent 344 029, dated May 15, 1920. In German. 1.50

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CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing aminopyridines. Class 12 p, group 1. Ger. patent 358 397, dated Aug 4, 1920. Inventors: Rede and Horsters. In German. 1.50

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PB L 70317
CASSELLA, LEOPOLD, & CO. GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG, FRANKFURT AM MAIN, GERMANY. Process for preparing acridine derivatives. Class 12 p, group 1. Ger. patent 345 400, dated Dec 21, 1917. Inventor: Benda. In German. 1.50

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PB L 70317
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PB L 70317
MERCK, E., CHEMISCHE FABRIK, DARMSTADT, GERMANY. Process for preparing betaines of the pyridine series. Class 12 p, group 1. Ger. patent 344 030, dated May 15, 1920. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing vanadium compounds of the quinoline series which are either insoluble or difficultly soluble in water. Class 12 p, group 1. Ger. patent 436 517, dated Dec 28, 1924. Inventors: Hahl and Kropp. In German. 1.50

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PB L 70317 BERLIN-BRITZ, GERMANY. Process for preparing derivatives of pyridine-2,3-dicarboxylic acid. Class 12 p, group 1. Ger. patent 686 243, dated Jun 30, 1937. Inventors: Boedecker and Volk. In German. 1.50

3211 CHICHIBABIN, A. E. (Inventor).
PB L 70317 Process for preparing hydroxypyridine carboxylic acids. Class 12 p, group 1. Ger. patent 436 443, dated Oct 14, 1923. In German. 1.50

3212-3213 FARBWERKE VORM. MEISTER LUCIUS & BRUNING, HOCHST, GERMANY.
PB L 70317 Process for preparing N-alkylated pseudostyrilles from ammonium compounds of metacarboxylic ethers of pyridine, quinoline and other bases. Class 12 p, group 1. Ger. patent 32 280, dated Dec 12, 1884. In German. 1.50

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PB L 70317 GERMANY. Process for preparing dicyclic bases. Class 12 p, group 1. Ger. patent 433 098, dated Jul 5, 1924. In German. 1.50
Supplement to patent 423 027.

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PB L 70317 (VORM. E. SCHERING), BERLIN. Process for preparing derivatives of quinoline and pyridine carboxylic acids which are easily soluble in water. Class 12 p, group 1. Ger. patent 433 646, dated Sep 15, 1923. Inventors: Brugach and Horsters. In German. 1.50

3217-3218 FARBENFABRIKEN VORM. FRIEDR. BAYER &
PB L 70317 CO., LEVERKUSEN, GERMANY. Process for preparing compounds of basic dyes of the acridine and safranine series. Class 12 p, group 1. Ger. patent 285 500, dated Feb 7, 1914. In German. 1.50

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PB L 70317 LUDWIGSHAFEN, GERMANY. Process for preparing nitro-1-quinolines. Class 12 p, group 1. Ger. patent 347 375, dated Feb 8, 1920. In German. 1.50
Supplement to patent 335 197.

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PB L 70317 Process for preparing diiodo substitution products of 2-hydroxypyridine and its derivatives. Class 12 p, group 1. Ger. patent 490 416, dated Apr 1, 1927. Inventors: Dohrn and Dirksen. In German. 1.50

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PB L 70317 AM MAIN, GERMANY. Process for preparing N-substituted amines of the carbocyclic and heterocyclic series. Class 12 p, group 1. Ger. patent 490 275, dated Dec 21, 1926. Inventors: Schulemann and others. In German. 1.50
Supplement to patent 486 079.

3225-3226 I. G. FARBENINDUSTRIE A. G., FRANKFURT
PB L 70317 AM MAIN, GERMANY. Process for preparing 2,4-diketo-1,2,3,4-tetrahydroquinolines. Class 12 p, group 1. Ger. patent 490 274, dated Dec 3, 1926. In German. 1.50

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PB L 70317 AM MAIN, GERMANY. Process for preparing 6-alkoxy-8-aminoquinolines. Class 12 p, group 1. Ger. patent 490 188, dated Dec 10, 1926. Inventors: Schulemann and others. In German. 1.50
Supplement to patent 451 730.

3228-3229 I. G. FARBENINDUSTRIE A. G., FRANKFURT
PB L 70317 AM MAIN, GERMANY. Process for preparing alkoxy acridinium compounds. Class 12 p, group 1. Ger. patent 489 457, dated Mar 16, 1927. Inventors: Benda and Sievers. In German. 1.50

3230-3231 I. G. FARBENINDUSTRIE A. G., FRANKFURT
PB L 70317 AM MAIN, GERMANY. Process for obtaining anhydrous reduction and hydrogenation products of pyridine and its homologues. Class 12 p, group 1. Ger. patent 489 456, dated Mar 3, 1927. Inventors: Chunkur and Spannagel. In German. 1.50

3232-3233 I. G. FARBENINDUSTRIE A. G., FRANKFURT
PB L 70317 AM MAIN, GERMANY. Process for preparing water- and lipoid-soluble salts from 3,6-diaminoacridinium compounds and carboxylic acids of the camphane series. Class 12 p, group 1. Ger. patent 681 981, dated Nov 24, 1937. Inventors: Herrmann and Sievers. In German. 1.50

3234-3240 I. G. FARBENINDUSTRIE A. G., FRANKFURT
PB L 70317 AM MAIN, GERMANY. Process for preparing N-substituted aminoquinolines. Class 12 p, group 1. Ger. patent 486 079, dated Sep 12, 1924. Inventors: Schulemann and others. In German. 1.50

3241 STAUDINGER, HERMANN (Inventor).
PB L 70317 Process for preparing aromatic esters of N-substituted 4-hydroxypiperidines. Class 12 p, group 1. Ger. patent 451 731, dated Apr 11, 1924. In German. 1.50

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PB L 70317 AM MAIN, GERMANY. Process for preparing 6-alkoxy-8-aminoquinolines. Class 12 p, group 1. Ger. patent 451 730, dated Apr 30, 1925. Inventors: Schulemann and others. In German. 1.50

3244-3245 RISLER, OTTO (Inventor). Process
PB L 70317 for preparing 1-arylpiperidine-4-carboxylic acid derivatives. Class 12 p, group 1. Ger. patent 748 600, dated Jun 23, 1942. In German. 1.50

3246-3247 WAGNER, OTTO (Inventor). Process
PB L 70317 for preparing pure quinoline from crude quinoline obtained from coal tar. Class 12 p, group 1. Ger. patent 451 590, dated Oct 31, 1925. In German. 1.50

3248 KALLE & CO. A. G., BIEBRICH, GERMANY.
PB L 70317 Process for preparing amino- and hydroxyquinoline derivatives. Class 12 p, group 1. Ger. patent 489 458, dated Jan 29, 1926. Inventors: Schmidt and Krieger. In German. 1.50

3249-3250 RATH, CURT (Inventor). Process for
PB L 70317 preparing 2-amino-5-iodopyridine. Class 12 p, group 1. Ger. patent 454 695, dated Feb 3, 1925. In German. 1.50

3251-3252 WOLFFENSTEIN, RICHARD (Inventor).
PB L 70317 Process for preparing halogenalkylates of hydrogenated N-alkylpyridine-3-carboxylic esters. Class 12 p, group 1. Ger. patent 346 461, dated Dec 20, 1917. In German. 1.50

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PB L 70317
FARBWERKE VORM. MEISTER LUCIUS & BRUNING, HOCHST, GERMANY. Process for preparing pyridine bases. Class 12 p, group 1. Ger. patent 349 267, dated Dec 24, 1918. In German. 1.50
Supplement to patent 347 820.

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PB L 70317
WOLFFENSTEIN, RICHARD (Inventor). Process for preparing acid alkylates of hydrogenated N-alkylpyridine-3-carboxylic esters. Class 12 p, group 1. Ger. patent 348 379, dated Oct 23, 1919. In German. 1.50
Supplement to patent 346 461.

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PB L 70317
TROPONWERKE DINKLAGE & CO., KÖLN-MÜLHEIM, GERMANY. Process for preparing hydrogenated isoquinoline compounds which are aralkyl-substituted in the nitrogenous nucleus and contain free hydroxyl groups in an aromatic nucleus. Class 12 p, group 1. Ger. patent 730 667, dated Feb 12, 1939. Inventor: Kölz. In German. 1.50
Supplement to patent 728 326.

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing urea derivatives of the heterocyclic series with quaternary nitrogen in the ring. Class 12 p, group 1. Ger. patent 601 861, dated Feb 9, 1933. Inventor: Jensch. In German. 1.50
Supplement to patent 583 207.

3260-3262
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing ureas and thioureas of the aromatic series, which contain heterocyclic radicals. Class 12 p, group 1. Ger. patent 546 143, dated Dec 6, 1928. Inventors: Dressel and others. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing pyridine bases. Class 12 p, group 1. Ger. patent 523 602, dated Sep 28, 1928. Inventors: Schlecht and Rötger. In German. 1.50

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FARBENFABRIKEN VORM. FRIEDR. BAYER & CO., LEVERKUSEN, GERMANY. Process for preparing substituted quinoline-4-carboxylic acids. Class 12 p, group 1. Ger. patent 290 703, dated Dec 17, 1913. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing dinitrogen substituted sulfenamides. Class 12 p, group 1. Ger. patent 586 351, dated Apr 9, 1932. Inventor: Zaucker. In German. 1.50

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PB L 70317
RIEDEL, J. D. & HAEN, E. DE, A. G., BERLIN-BRITZ, GERMANY. Process for preparing polycyclic bases. Class 12 p, group 1. Ger. patent 535 956, dated Apr 23, 1929. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing complex compounds of quaternary salts of 3,6-diamino-10-alkylacridinium. Class 12 p, group 1. Ger. patent 520 078, dated Dec 14, 1925. Inventors: Schranz and Müller. In German. 1.50

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FIRMA E. MERCK, DARMSTADT, GERMANY. Process for preparing derivatives of 3-methylisoquinoline. Class 12 p, group 1. Ger. patent 549 967, dated Nov 9, 1930. Inventors: Wolfes and Dobrowsky. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing derivatives of 7-iodo-8-hydroxyquinoline-5-sulfonic acid. Class 12 p, group 1. Ger. patent 545 915, dated Jul 2, 1930. Inventors: Schranz and Lutter. In German. 1.50

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PB L 70317
SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing chlorine derivatives of pyridine. Class 12 p, group 1. Ger. patent 522 060, dated Apr 15, 1927. Inventor: Räth. In German. 1.50

3285-3288
PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing nitrogenous condensation products of the heterocyclic series. Class 12 p, group 1. Ger. patent 600 626, dated Jul 23, 1932. Inventors: Kunz and Kochendörfer. In German. 1.50

3289-3290
PB L 70317
CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing pyridine compounds. Class 12 p, group 1. Ger. patent 601 823, dated May 28, 1933. Inventors: Haack and v. Buddenbrock. In German. 1.50

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PB L 70317
CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for sulfonating N-substituted 2-pyridones. Class 12 p, group 1. Ger. patent 601 896, dated Sep 12, 1933. Inventor: von Schickh. In German. 1.50

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PB L 70317
SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing 3,5-diiodo-4-pyridone. Class 12 p, group 1. Ger. patent 602 943, dated Apr 2, 1933. Inventors: Dohrn and Diedrich. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for introducing aminoalkyl groups into basic groups of organic compounds. Class 12 p, group 1. Ger. patent 602 049, dated May 10, 1932. Inventors: Rothmann and Fricker. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing o-acyl derivatives of the alkyl esters of 2,6-dimethyl-4-hydroxypiperidine-3-carboxylic acid. Class 12 p, group 1. Ger. patent 490 417, dated May 18, 1926. Inventors: Stolz and Kross. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing 3-aminoacridine and its substitution products. Class 12 p, group 1. Ger. patent 547 983, dated Oct 18, 1930. Inventors: Mietzsch and others. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing 2,4-dihydroxyquinolines.

Class 12 p, group 1. Ger. patent 505 798, dated Feb 5, 1929. Inventor: Klamerer. In German. 1.50

3303-3304 PB L 70317 KOENIGS, ERNST and GREINER, HEINZ (Inventors). Process for preparing pyridine derivatives. Class 12 p, group 1. Ger. patent 536 891, dated Jul 24, 1929. In German. 1.50

3305-3306 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing nitro compounds of the quinoline series. Class 12 p, group 1. Ger. patent 510 431, dated Mar 13, 1929. Inventors: Müller and Scheurer. In German. 1.50

3307-3308 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing aqueous solutions of acridine salts. Class 12 p, group 1. Ger. patent 585 597, dated Dec 17, 1931. Inventors: Benda and Sievers. In German. 1.50

3309-3311 PB L 70317 GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, BASEL, SWITZERLAND. Process for preparing basic ethers of phenylquinolines. Class 12 p, group 1. Ger. patent 547 082, dated Feb 23, 1930. In German. 1.50

3312 PB L 70317 SCHERING-KAHLBAUM A. G., BERLIN. Process for preparing aminopyridines (iodinated in 5-position) from the chloroiodo compounds of 2-aminopyridine and its derivatives. Class 12 p, group 1. Ger. patent 503 920, dated Jan 15, 1927. In German. 1.50

3313-3315 PB L 70317 SCHERING-KAHLBAUM A. G., BERLIN. Process for increasing the water solubility of halogen-substituted hydroxypyridines. Class 12 p, group 1. Ger. patent 506 425, dated May 12, 1927. Inventor: Räth. In German. 1.50

3316-3317 PB L 70317 RÄTH, CURT and BINZ, ARTHUR (Inventors). Process for preparing iodoso and iodo compounds of the pyridine series. Class 12 p, group 1. Ger. patent 499 951, dated Oct 17, 1925. In German. 1.50

3318-3319 PB L 70317 WACKER, ALEXANDER, GESELLSCHAFT FÜR ELEKTROCHEMISCHE INDUSTRIE G.M.B.H., MUNICH, GERMANY. Process for preparing monomeric and polymeric methylethylpyridine. Class 12 p, group 1. Ger. patent 733 850, dated Dec 28, 1940. Inventors: Herrmann and Haehnel. In German. 1.50

3320-3325 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing aminoalkylsulfone compounds. Class 12 p, group 1. Ger. patent 735 866, dated Jan 17, 1941. Inventor: Kisleb. In German. 1.50

3326-3327 PB L 70317 RÜTGERSWERKE A. G., BERLIN. Rapid method for the analysis of acridine. Class 12 p, group 1. Ger. patent 688 336, dated Nov 15, 1938. Inventor: Hviid. In German. 1.50

3328-3330 PB L 70317 RASCHIG, F., G.M.B.H., LUDWIGSHAFEN, GERMANY. Process for the oxidative decomposition of pyridine homologues. Class 12 p, group 1. Ger. patent 733 295, dated Feb 25, 1941. Inventors: Mathes and Seelmann. In German. 1.50

3331-3335 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing oxalkylated derivatives of nitrogen bases. Class 12 p, group 1. Ger. patent 691 970, dated Dec 1, 1934. In German. 1.50

3336-3337 PB L 70317 BADISCHE ANILIN- & SODA-FABRIK, LUDWIGSHAFEN, GERMANY. Process for preparing benzanthrone quinolines. Class 12 p, group 1. Ger. patent 171 939, dated Mar 26, 1904. In German. 1.50

3338-3340 PB L 70317 TROPONWERKE DINKLAGE & CO., KÖLN-MÜLHEIM, GERMANY. Process for preparing hydrogenated isoquinoline compounds which are arelkyl-substituted in the nitrogenous nucleus and contain free hydroxyl groups in an aromatic nucleus. Class 12 p, group 1. Ger. patent 731 561, dated Sep 3, 1939. Inventors: Kâls and Schöpf. In German. 1.50
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3341-3342 PB L 70317 KAUFMANN, ADOLF (Inventor). Process for preparing aminoketones of quinoline series. Class 12 p, group 1. Ger. patent 268 931, dated Mar 26, 1913. In German. 1.50

3343-3345 PB L 70317 TROPONWERKE DINKLAGE & CO., KÖLN-MÜLHEIM, GERMANY. Process for preparing tetrahydroisoquinoline compounds. Class 12 p, group 1. Ger. patent 733 299, dated Sep 3, 1939. Inventor: Kâls. In German. 1.50

3346-3347 PB L 70317 HOFFMANN, F. & LA ROCHE & CO. A. G., BASEL, SWITZERLAND. Process for preparing hydroxypyridine derivatives. Class 12 p, group 1. Ger. patent 730 910, dated Jun 5, 1941. In German. 1.50

3348-3349 PB L 70317 BAUMGARTEN, PAUL and DORNOW, ALFRED (Inventors). Process for preparing diazo ketones and chloroketones of the pyridine series. Class 12 p, group 1. Ger. patent 703 898, dated Jul 30, 1938. In German. 1.50

3350-3352 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing basic acid amides. Class 12 p, group 1. Ger. patent 731 560, dated May 16, 1941. Inventors: Bockwähl and Ehrhart. In German. 1.50

3353-3354 PB L 70317 FARBENFABRIKEN VORM. FRIEDR. BAYER & CO., ELBERFELD, GERMANY. Process for preparing substituted 2,3-diphenylquinoline-4-carboxylic acids. Class 12 p, group 1. Ger. patent 249 765, dated Aug 27, 1911. In German. 1.50

3355-3358 PB L 70317 HOFFMANN, F. & LA ROCHE & CO. A. G., BASEL, SWITZERLAND. Process for preparing adermine. Class 12 p, group 1. Ger. patent 732 238, dated Jun 17, 1941. In German. 1.50

3359-3361 PB L 70317 TROPONWERKE DINKLAGE & CO., KÖLN-MÜLHEIM, GERMANY. Process for preparing tetrahydroisoquinoline compounds. Class 12 p, group 1. Ger. patent 732 502, dated Aug 31, 1939. Inventor: Kâls. In German. 1.50

3362-3363 PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing acrylonitriles substituted with radicals of heterocyclic nitrogen bases. Class 12 p, group 1. Ger. patent 732 620, dated Aug 31, 1938. Inventors: Lange and others.

In German. 1.50
Supplement to patent 700 861.

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PB L 70317 CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing compounds from 2-phenylquinoline-4-carboxylic acid (or its homologues) and glycocol. Class 12 p, group 1. Ger. patent 249 766, dated Sep 29, 1911. In German. 1.50

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PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing nitrogenous unsaturated compounds. Class 12 p, group 1. Ger. patent 731 559, dated Feb 23, 1940. Inventors: Bock and Seidel. In German. 1.50

3367-3368
PB L 70317 FARBENFABRIKEN VORM. FRIEDR. BAYER & CO., LEVERKUSEN, GERMANY. Process for preparing chlorinated anthrapyridones. Class 12 p, group 1. Ger. patent 264 010, dated Jun 30, 1912. In German. 1.50

3369-3370
PB L 70317 FARBENFABRIKEN VORM. FRIEDR. BAYER & CO., LEVERKUSEN, GERMANY. Process for preparing esters of arylated quinoline carboxylic acids. Class 12 p, group 1. Ger. patent 261 028, dated Nov 12, 1911. In German. 1.50

3371-3372
PB L 70317 FARBWERKE VORM. MEISTER LUCIUS & BRUNING, HOCHST, GERMANY. Process for preparing nitrogenous anthracene derivatives. Class 12 p, group 1. Ger. patent 256 297, dated Nov 21, 1911. In German. 1.50

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PB L 70317 FARBENFABRIKEN VORM. FRIEDR. BAYER & CO., LEVERKUSEN, GERMANY. Process for preparing anthraquinone acridine carboxylic acids. Class 12 p, group 1. Ger. patent 262 469, dated Mar 30, 1912. In German. 1.50

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PB L 70317 CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), BERLIN. Process for preparing esters of 2-phenylquinoline-4-carboxylic acid. Class 12 p, group 1. Ger. patent 267 208, dated Nov 9, 1912. In German. 1.50

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PB L 70317 FARBENFABRIKEN VORM. FRIEDR. BAYER & CO., LEVERKUSEN, GERMANY. Process for preparing esters of 2-phenylquinoline-4-carboxylic acid and its homologues. Class 12 p, group 1. Ger. patent 267 209, dated Nov 3, 1912. In German. 1.50

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PB L 70317 VEREINIGTE CHININFABRIKEN ZIMMER & CO., G.M.B.H., FRANKFURT AM MAIN, GERMANY. Process for preparing quinonyl ketones. Class 12 p, group 1. Ger. patent 268 830, dated Mar 30, 1913. In German. 1.50

3379-3380
PB L 70317 FARBWERKE VORM. MEISTER LUCIUS & BRUNING, HOCHST, GERMANY. Process for preparing 2- or 3-antipyrylquinoline-4-carboxylic acids. Class 12 p, group 1. Ger. patent 270 487, dated Nov 28, 1912. In German. 1.50

3381-3382
PB L 70317 KODAK A. G., BERLIN. Process for preparing aldehyde derivatives of the quinoline series. Class 12 p, group 1. Ger. patent 719 271, dated Dec 23, 1936. Inventor: Brooker. In German. 1.50
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PB L 70317 HOFFMANN, F. & LA ROCHE & CO. A. G., BASEL, SWITZERLAND. Process for preparing derivatives of dihydropyridone. Class 12 p, group 1. Ger. patent 718 889, dated Jan 21, 1941. In German. 1.50

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PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing pyridine dicarboxylic acids. Class 12 p, group 1. Ger. patent 719 889, dated Feb 9, 1939. Inventors: Salzer and Henecka. In German. 1.50

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PB L 70317 GEBAUER-FÜLNEGG, ERICH and RIESENFELD, FRANZ (Inventors). Process for preparing non-hygroscopic easily split salts of pyridine and its homologues. Class 12 p, group 1. Ger. patent 482 266, dated Dec 24, 1925. In German. 1.50

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PB L 70317 BOEHRINGER, C. F., & SOEHNE G.M.B.H., MANNHEIM-WALDHOF, GERMANY. Process for preparing 1,4,5-triaminopyridine. Class 12 p, group 1. Ger. patent 670 920, dated Feb 10, 1937. Inventor: Hatsig. In German. 1.50

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PB L 70317 RIEDEL, J. D. & HAEN, E. DE A. G., BERLIN-BRITZ, GERMANY. Process for dehydrogenating dihydroisoquinoline compounds. Class 12 p, group 1. Ger. patent 674 400, dated Mar 12, 1937. Inventors: Boedecker and Heymons. In German. 1.50

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PB L 70317 GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, BASEL, SWITZERLAND. Process for preparing urethanes of the pyridine carboxylic acid series. Class 12 p, group 1. Ger. patent 603 733, dated Jul 9, 1931. In German. 1.50

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PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing salts of organic arsinic acids. Class 12 p, group 1. Ger. patent 618 567, dated Jul 5, 1931. Inventors: Streitwolf and Oesterlin. In German. 1.50

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PB L 70317 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing tetrahydro-1-hydroxyquinoline derivatives. Class 12 p, group 1. Ger. patent 619 825, dated May 17, 1934. Inventor: Lange. In German. 1.50

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PB L 70317 DEUTSCHE GOLD- UND SILBER-SCHEIDE-ANSTALT VORM. ROESSLER, FRANKFURT AM MAIN, GERMANY. Process for iodinating 2-aminopyridine. Class 12 p, group 1. Ger. patent 526 803, dated Dec 2, 1926. Inventor: Vieweg. In German. 1.50

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PB L 70317 RÖHME FETTCHEMIE-GESELLSCHAFT M.B.H., CHEMNITZ, GERMANY. Process for preparing sulfonated fatty acid derivatives of heterocyclic bases. Class 12 p, group 1. Ger. patent 628 828, dated Jul 22, 1930. In German. 1.50

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PB L 70317
BOEHRINGER, C. F., & SOEHNE G.M.B.H., MANNHEIM-WALDHOF, GERMANY. Process for preparing quinic acid (6-methoxy-quinoline-4-carboxylic acid). Class 12 p, group 1. Ger. patent 619 824, dated Mar 9, 1934. Inventors: Dirscherl and Thron. In German. 1.50

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PB L 70317
BOEHRINGER, C. F., & SOEHNE G.M.B.H., MANNHEIM-WALDHOF, GERMANY. Process for preparing 2,3,6-triaminopyridine. Class 12 p, group 1. Ger. patent 628 605, dated Nov 14, 1934. Inventor: Hetzig. In German. 1.50

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PB L 70317
GESELLSCHAFT FUR CHEMISCHE INDUSTRIE, BASEL, BASEL, SWITZERLAND. Process for preparing quaternary heterocyclic ammonium salts containing a carbon radical that is acylated and bears a hydroxyl. Class 12 p, group 1. Ger. patent 626 718, dated Jul 12, 1931. In German. 1.50

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PB L 70317
CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing alkoxy amino-pyridines. Class 12 p, group 1. Ger. patent 626 687, dated Jul 5, 1934. Inventor: von Schickh. In German. 1.50

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PB L 70317
CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing 3-aminopyridine. Class 12 p, group 1. Ger. patent 626 717, dated Sep 21, 1933. Inventors: Binz and von Schickh. In German. 1.50
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PB L 70317
JOHN, HANNS (Inventor). Process for preparing esters of 2-phenyl-quinoline-4-carboxylic acid or of its substitution products and homologues. Class 12 p, group 1. Ger. patent 626 355, dated Nov 12, 1933. In German. 1.50

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PB L 70317
DEUTSCHE GOLD- UND SILBER-SCHEIDE-ANSTALT VORM. ROESSLER, FRANKFURT AM MAIN, GERMANY. Process for preparing condensation products of pyridine or dipyridyls. Class 12 p, group 1. Ger. patent 626 671, dated Sep 1, 1931. Inventor: Schulenburg. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing basic azo compounds of the quinoline series. Class 12 p, group 1. Ger. patent 622 596, dated Dec 9, 1932. Inventor: Jensch. In German. 1.50

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PB L 70317
CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing 3-amino-pyridine. Class 12 p, group 1. Ger. patent 622 345, dated Sep 5, 1933. Inventors: Binz and von Schickh. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for purifying commercial pyridine bases. Class 12 p, group 1. Ger. patent 605 228, dated Sep 15, 1932. Inventors: Guost and Lommel. In German. 1.50

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PB L 70317
CHEMISCHE FABRIK TEMPELHOF PREUSS & TROMLER, BERLIN-TEMPELHOF, GERMANY. Process for preparing 2-aminopyridine-5-sulfonamide. Class 12 p, group 1. Ger. patent 679 280, dated Dec 29, 1936. Inventor: von Schickh. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing N-alkylated imino compounds. Class 12 p, group 1. Ger. patent 628 829, dated Feb 8, 1933. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing acridine derivatives. Class 12 p, group 1. Ger. patent 632 224, dated Jun 8, 1934. Inventors: Mauss and Mietzsch. In German. 1.50
Supplement to patent 553 072.

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PB L 70317
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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing acridine derivatives. Class 12 p, group 1. Ger. patent 631 504, dated Jun 7, 1934. Inventors: Mietzsch and Mauss. In German. 1.50
Supplement to patent 553 072.

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing salts of tetrahydro-N-methyl-nicotinic methyl ester. Class 12 p, group 1. Ger. patent 631 185, dated Jun 8, 1933. Inventors: Bockmühl and Ehrhart. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing acridine derivatives. Class 12 p, group 1. Ger. patent 630 842, dated Mar 10, 1934. Inventors: Mietzsch and Mauss. In German. 1.50
Supplement to patent 553 072.

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing Py.-tetrahydro naphthoquinoline sulfonic acids. Class 12 p, group 1. Ger. patent 630 770, dated Jan 25, 1935. Inventors: Kochendörfer and others. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing 3-aminoquinoline derivatives. Class 12 p, group 1. Ger. patent 630 769, dated Aug 17, 1934. Inventor: Schörnig. In German. 1.50
Supplement to patent 611 691.

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing water-soluble, complex antimony compounds of the quinoline series. Class 12 p, group 1. Ger. patent 630 587, dated Nov 29, 1934. Inventor: Hahl. In German. 1.50

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PB L 70317
HOFFMANN, F. & LA ROCHE & CO. A. G., BASEL, SWITZERLAND. Process for preparing 2,4-dioxo-1,3-dialkyl-tetrahydropyridine-6-carboxylic esters or the corresponding free acids. Class 12 p, group 1. Ger. patent 668 489, dated Aug 26, 1937. In German. 1.50

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PB L 70317
RIEDEL, J. D., A. G., BERLIN-BRITZ, GERMANY. Process for preparing dicyclic bases. Class 12 p,

group 1. Ger. patent 423 027, dated Mar 14, 1924. In German. 1.50

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PB L 70317
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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing diaminoquinolines or their derivatives. Class 12 p, group 1. Ger. patent 591 480, dated Jan 27, 1932. Inventor: Jensch. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing organic compounds. Class 12 p, group 1. Ger. patent 514 174, dated Sep 16, 1925. Inventors: Nicodemus and Berndt. In German. 1.50
Supplement to patent 481 819.

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PB L 70317
DEUTSCHE GOLD- UND SILBER-SCHEIDE-ANSTALT VORM. ROESSLER, FRANKFURT AM MAIN, GERMANY. Process for preparing iodine-substituted pyridine derivatives. Class 12 p, group 1. Ger. patent 513 293, dated Jan 25, 1925. Inventor: Kochendörfer. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing basic ethers of the acridine series. Class 12 p, group 1. Ger. patent 490 418, dated Jul 9, 1926. Inventor: Mietzsch. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing pyracridone. Class 12 p, group 1. Ger. patent 522 272, dated Sep 30, 1928. Inventor: Räth. In German. 1.50

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing monoacyl diaminoacridines or their salts. Class 12 p, group 1. Ger. patent 546 661, dated Oct 26, 1930. Inventor: Schmidt. In German. 1.50

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I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing organic bases. Class 12 p, group 1. Ger. patent 504 238, dated Dec 31, 1927. Inventor: Nicodemus. In German. 1.50
Supplement to patent 479 351.

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PB L 70317
I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Process for preparing acridine compounds. Class 12 p, group 1. Ger. patent 605 123, dated Mar 5, 1933. Inventor: Sievers. In German. 1.50

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PB L 70317
CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing sulfonic acids of N-substituted 2-pyridones. Class 12 p, group 1. Ger. patent 597 452, dated Feb 23, 1933. Inventor: Haack. In German. 1.50

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PB L 70317
BAUMGARTEN, PAUL (Inventor). Process for preparing anhydro-N-pyridinium sulfonic acids. Class 12 p, group 1. Ger. patent 514 821, dated Mar 17, 1926. In German. 1.50

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PB L 70317
CHINOSOLFABRIK A. G., HAMBURG-BILLBROOK, GERMANY. Process for preparing intestinal disinfectants. Class 12 p, group 1. Ger. patent 513 127, dated Jan 31, 1928. In German. 1.50

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CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing substituted 2-hydroxypyridines. Class 12 p, group 1. Ger. patent 597 974, dated Mar 10, 1933. Inventors: Haack and Rost. In German. 1.50
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GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, BASEL, SWITZERLAND. Process for preparing pyridine-2,3-dicarboxylic acid (quinolinic acid). Class 12 p, group 1. Ger. patent 455 386, dated Sep 9, 1924. In German. 1.50

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LIMPACH, LEONHARD (Inventor). Process for preparing 4-hydroxy-2-methylquinolines. Class 12 p, group 1. Ger. patent 455 387, dated Feb 17, 1926. In German. 1.50

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their derivatives. Class 12 p, group 1. Ger. patent 446 543, dated Jul 5, 1925. Inventor: Fries. In German. 1.50

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3541-3542 PB L 70317 — ASTA A. G. CHEMISCHE FABRIK, BRACKWEDE, GERMANY. Process for preparing 1-(3',4',5'-trialkoxyphenyl)-6,7-dialkoxy isoquinolines. Class 12 p, group 1. Ger. patent 614 703, dated Aug 30, 1932. In German. 1.50

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CHEMISCHE FABRIK VON HEYDEN A. G., RADEBEUL, DRESDEN, GERMANY. Process for preparing condensation products of quaternary pyridine compounds. Class 12 p, group 1. Ger. patent 594 084, dated Oct 29, 1932. Inventor: Haack. In German. 1.50

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PB L 70317
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3682 PB L 70317 — PAAL, CARL (Inventor). Process for preparing a heavy-metal salt (with colloidal solubility) of 2-phenylquinoline-4-carboxylic acid. Class 12 p, group 1. Ger. patent 410 365, dated Mar 30, 1921. In German. 1.50

3683 PB L 70317 — KNOLL & CO. CHEMISCHE FABRIK, LUDWIGSHAFEN, GERMANY. Process for preparing derivatives of 2-methylquinoline (quinaldine). Class 12 p, group 1. Ger. patent 363 583, dated Jan 20, 1921. In German. 1.50
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3684 PB L 70317 — FIRMA E. MERCK CHEMISCHE FABRIK, DARMSTADT, GERMANY. Process for preparing pyridine-2,3-dicarboxylic acid (quinolic acid). Class 12 p, group 1. Ger. patent 414 072, dated Jul 20, 1923. Inventor: Diehl. In German. 1.50

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3687 PB L 70317 — RIEDEL, J. D., AKTIENGESELLSCHAFT, BERLIN-BRITZ, GERMANY. Process for preparing derivatives of 2-phenyl-quinoline-4-carboxylic acid. Class 12 p, group 1. Ger. patent 411 051, dated Feb 18, 1923. In German. 1.50

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3691-3692 PB L 70317 — THIELEPAPE, ERNST (Inventor). Process for preparing alkyl esters of 2-quinoline-4-carboxylic acid. Class 12 p, group 1. Ger. patent 416 769, dated Nov 3, 1921. In German. 1.50

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3704-3705 PB L 70317 — MANNICH, C. (Inventor). Process for preparing amino ketones. Class 12 p, group 1. Ger. patent 422 916, dated Mar 26, 1922. In German. 1.50
Supplement to patent 422 098.

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G.M.B.H., DORTMUND-EVING, GERMANY. Process for obtaining pyridine bases from gas water. Class 12 p, group 1. Ger. patent 727 557, dated Mar 29, 1939. Inventors: Dohse and Klempt. In German. 1.50

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This reel is a continuation of the listing of patents on reel Patents 157, PB 20645. The complete index of Hoechst patent office can be found on reel Patents 155, PB 20547. The individual items on this reel, Patents 158, are listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased as a microfilm for $6.00. Please include the applicable PB number of each individual item ordered. In German.

PB Numbers Frames	Title	Price
L 60000 Frames 3249-3250	Insecticides. Ger. patent application J.72 101 IVa/45 l, dated Apr 25, 1942. In German.	$1.50
L 60001 Frames 3251-3255	Process for recovering homopyrocatechol. Ger. patent application J.74174 IVa/12 q, dated May 5, 1942. In German.	1.50
L 60002 Frames 3256-3257	Process for precipitating cellulose derivatives from their solutions. Ger. patent application J.72175 IVc/12 o, dated May 6, 1942. In German.	1.50
L 60003 Frames 3258-3262	Paint color. Ger. patent application J.57374 IVc/22 g, dated May 13, 1942. In German.	1.50
L 60004 Frames 3263-3264a	Absorption of hydrogen chloride. Ger. patent application J.72285 IVb/12 i, dated May 18, 1942. In German.	1.50
L 60005 Frames 3265-3266	Production of chromium tetrachloride. Ger. patent application J.72217 IVb/12 m, dated May 13, 1942. In German.	1.50
L 60006 Frames 3267-3274	Process for coloring or printing on glass fibres or such. Ger. patent application J.72229 IVc/8 m, dated May 13, 1942. In German.	1.50
L 60007 Frames 3275-3278	Greasing agents for leather. Ger. patent application J.72256 IVd/28 a, dated May 14, 1942. In German.	1.50
L 60008 Frames 3279-3281	Process for producing pinacol. Ger. patent application J.72300 IVd/12 o, dated May 20, 1942. In German.	1.50
L 60009 Frames 3282-3284	Process for producing anthranyl-9-dithiochloride. Ger. patent application J.72300 IVd/12 o, dated May 20, 1942. In German.	1.50
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L 60067 Frames 3622-3625 — Production of high-grade titanium carbide. Ger. patent application J.57 177 IVb/12 i, dated Apr 2, 1942. In German. 1.50

L 60066 Frames 3626-3627 — Motor fuel. Ger. patent application J.72 302 IVd/46 a, dated May 21, 1942. In German. 1.50

L 60065 Frames 3628-3633 — Process for producing asymmetric diarylalkylene compounds. Ger. patent application J.73 080 IVc/12 q, dated Sep 2, 1942. In German. 1.50

L 60064 Frames 3634-3635 — Process for shaping base plates. Ger. patent application J.73 088 IXa/30 b, dated Sep 3, 1942. In German. 1.50

L 60063 Frames 3636-3638 — Process for thermal finishing of cellulose. Ger. patent application J.73 081 IVb/55 b, dated Sep 3, 1942. In German. 1.50

L 60144 Frames 3639-3644 — Process for separating gas mixtures. Ger. patent application J.73 189 IVb/12 c, dated Sep 21, 1942. In German. 1.50

L 60143 Frames 3645-3648 — Process for producing 2-aminopyrimidine. Ger. patent application J.73 104 IVc/12 p, dated Sep 5, 1942. In German. 1.50

L 60142 Frames 3649-3650 — Process for producing boron-free, titanium-containing base enamels. Ger. patent application J.73 113 VIb/48 c, dated Sep 8, 1942. In German. 1.50

L 60141 Frames 3651-3652 — Process for producing colored enamels containing little or no boron. Ger. patent application J.73 112 VIb/48 c, dated Sep 8, 1942. In German. 1.50

L 60140 Frames 3653-3655 — Process for producing water soluble moth-destroying agents. Ger. patent application J.73 145 IVd/12 c, dated Sep 9, 1942. In German. 1.50

L 60139 Frames 3656-3661 — Process for manufacturing condensation products. Ger. patent application J.73 216 IVc/12 c, dated Sep 22, 1942. In German. 1.50

L 60138 Frames 3662-3667 — Apparatus especially for precipitating zinc sulfide. Ger. patent application J.73 270 IVb/12 g, dated Sep 26, 1942. In German. 1.50

L 60137 Frames 3668-3672 — Process for raising the molecular weight of hydrocarbons. Ger. patent application J.71 463 IVd/12 c, dated Jan 31, 1942. In German. 1.50

L 60136 Frames 3673-3680 — Process and device for generating steam. Ger. patent application J.73 271 X/13 g, dated Oct 1, 1942. In German. 1.50

L 60135 Frames 3681-3684 — Process for recovering phenols from oils. Ger. patent application J.73 277 IVc/12 g, dated Oct 3, 1942. In German. 1.50

L 60134 Frames 3685-3688 — Production of titanium sulfate solutions. Ger. patent application T.58 111 IVb/12 i, dated Oct 12, 1942. In German. 1.50

L 60133 Frames 3689-3690 — Process for continuous production of secondary amines and carbazoles of the anthraquinone series. Ger. patent application J.73 369 IVd/22 b, dated Oct 15, 1942. In German. 1.50

L 60132 Frames 3691-3692 — Manufacture of colored enamels and glazes. Ger. patent application J.73 370 VIb/48 c, dated Oct 19, 1942. In German. 1.50

L 60131 Frames 3693-3694 — Dielectrics. Ger. patent application J.73 340 VIIIb/21 c, dated Oct 13, 1942. In German. 1.50

L 60130 Frames 3695-3696 — Emulsion paints and process for production. Ger. patent application J.73 418 IVc/22 h, dated Oct 24, 1942. In German. 1.50

L 60129 Frames 3697-3701 — Process for producing oxyoxo compounds. Ger. patent application J.73 436 IVd/12 c, dated Oct 22, 1942. In German. 1.50

L 60128 Frames 3702-3704 — Process for producing unsaturated compounds. Ger. patent application J.73 453 IVc/12 c, dated Oct 29, 1942. In German. 1.50

L 60127 Frames 3705-3706 — Process for producing pyrimidine compounds. Ger. patent application J.73 457 IVc/12 p, dated Oct 24, 1942. In German. 1.50

L 60126 Frames — Process for producing hypericine. Ger. patent application J.73 458

3707-3708 IVd/22 e, dated Oct 24, 1942. In German. 1.50

L 60125 Frames 3709-3716 Process for manufacturing condensation products. Ger. patent application J.73 490 IVe/39 e, dated Oct 30, 1942. In German. 1.50

L 60124 Frames 3717-3718 Process for lowering the viscosity of organic cellulose esters. Ger. patent application J.73 513 IVc/12 c, dated Oct 31, 1942. In German. 1.50

L 60123 Frames 3719-3722 Process for producing thionylchloride. Ger. patent application J.65 541 IVb/12 i, dated Sep 4, 1939. In German. 1.50

L 60122 Frames 3723-3725 Filling material for roots of teeth. Ger. patent application J.73 604 IVa/30 h, dated Nov 14, 1942. In German. 1.50

L 60121 Frames 3726-3728 Pigments. Ger. patent application J.73 530 IVc/22 h, dated Nov 7, 1942. In German. 1.50

L 60120 Frames 3729-3735 Process for manufacturing condensation products. Ger. patent application J.73 579 IVe/39 c, dated Nov 13, 1942. In German. 1.50

L 60119 Frames 3736-3737 Process for promoting the vital functions of cells. Ger. patent application J.73 603 IVb/16, dated Nov 12, 1942. In German. 1.50

L 60118 Frames 3738-3740 Process for producing colored enamels. Ger. patent application J.73 559 IVb/48 c, dated Nov 12, 1942. In German. 1.50

L 60117 Frames 3741-3743 Process for ground enamelling. Ger. patent application J.73 560 VIb/48 c, dated Nov 12, 1942. In German. 1.50

L 60116 Frames 3744-3746 Base enamel. Ger. patent application J.73 561 VIb/48 c, dated Nov 12, 1942. In German. 1.50

L 60115 Frames 3747-3754 Process for fractionated working up of amalgam mixtures. Ger. patent application J.73 617 VIa/40 a, dated Nov 18, 1942. In German. 1.50

L 60114 Frames 3755-3756 Production of stable, liquid suspensions of water-soluble antimony compounds. Ger. patent application J.73605 IVa/30h dated Nov 16, 1942. In German. 1.50

L 60113 Frames 3757-3758 Colored enamels. Ger. patent application J.73649 VIb/48c dated Nov 23, 1942. In German. 1.50

L 60112 Frames 3759-3761 Separation of a volatile chloride from ferric chloride. Ger. patent application I.73606 IVb/12g dated Nov 1942. In German. 1.50

L 60111 Frames 3762-3763 Process for producing a cyanosulfonic acid. Ger. patent application J.73593 IVd/12o dated Nov 14, 1942. In German. 1.50

L 60110 Frames 3764-3765 Fighting fungus damage in viniculture. Ger. patent application J.73607 IVa/45 l dated Nov 16, 1942. In German. 1.50

L 60109 Frames 3766-3767 Anti-peronospora agent. Ger. patent application J.73608 IVa/45 l dated Nov 16, 1942. In German. 1.50

L 60108 Frames 3768-3771 Process for producing resinlike material. Ger. patent application J.73637 IVc/39c dated Nov 21, 1942. In German. 1.50

L 60107 Frames 3772-3773 Process for producing ethers containing chlorine. Ger. patent application J.73664 IVd/12o dated Nov 25, 1942. In German. 1.50

L 60106 Frames 3774 Process for manufacturing polymerization products. Ger. patent application J.73709 IVd/12o dated Nov 27, 1942. In German. 1.50

L 60105 Frames 3775-3777 Process for producing alkyl- and aralkylethers of cellulose rich in pentosans. Ger. patent application J.73722 IVc/12o dated Nov 30, 1942. In German. 1.50

L 60104 Frames 3778-3782 Production of calcium aluminate. Ger. patent application J.73051 IVb/12m dated Aug 27, 1942. In German. 1.50

L 60103 Frames 3783-3787 Production of calcium-aluminate and iron. Ger. patent application J.73050 IVb/12m dated Aug 27, 1942. In German. 1.50

L 60102 Frames 3788-3794 Process for manufacturing condensation products. Ger. patent application J.73747 IVc/39c dated Nov 27, 1942. In German. 1.50

L 60101 Frames 3795-3797 Process for producing rubberlike polymers. Ger. patent application J.73724 IVc/39c dated Dec 1, 1942. In German. 1.50

L 60100 Frames 3798-3802 Production of formed masses. Ger. patent application J.73725 IVc/39b dated Dec 1, 1942. In German. 1.50

L 60099 Frames 3803-3805 Cellulose material. Ger. patent application J.73855 IVb/12g dated Dec 5, 1942. In German. 1.50

L 60098 Frames 3806-3807 Process for producing salts of beta-indolalkylsulfonic acids. Ger. patent application J.73780 IVc/12p dated Dec 7, 1942. In German. 1.50

L 60097 Frames 3808-3811 Agents for increasing the adhesive power of rubber and rubber mixtures. Ger. patent application J.73817 IVd/22i dated Dec 11, 1942. In German. 1.50

L 86257 Frames 3812-3815 Stabilizing agent for synthetic rubberlike products. Ger. patent application J.73805 IVc/39b dated Dec 11, 1942. In German. 2.00

L 60096 Frames 3816-3818 Process for producing p-substituted benzenesulfonic derivatives. Ger. patent application J.73842 IVc/12g dated Dec 10, 1942. In German. 1.50

L 60095 Frames 3819-3820 Base enamel. Ger. patent application J.73831 VIb/48i dated Dec 14, 1942. In German. 1.50

L 60094 Frames 3821-3823 Base enamel. Ger. patent application J.73843 VIb/48c dated Dec 16, 1942. In German. 1.50

L 60191 Frames 3824-3827 Pigment, emulsion paint and process for production. Ger. patent application J.73885 IVa/22h dated Dec 18, 1942. In German. 1.50

L 60190 Frames 3828-3833 Process for production of impregnating agents and baths. Ger. patent application J.73807 IVd/8k dated Dec 16, 1942. In German. 1.50

L 60189 Frames 3834-3837 — Sealing device. Ger. patent application J.73869 X/13c dated Dec 18, 1942. In German. 1.50

L 60188 Frames 3838-3840 — Process for manufacturing condensation products. Ger. patent application J.73868 IVc/39c dated Dec 18, 1942. In German. 1.50

L 60187 Frames 3841-3843 — Sealing device for pipe lines. Ger. patent application J.73899 XII/47f dated Dec 19, 1942. In German. 1.50

L 60186 Frames 3844-3847 — Process for producing unsaturated hydrazines. Ger. patent application J.73941 IVc/12g dated Dec 23, 1942. In German. 1.50

L 60185 Frames 3848-3851 — Process for producing soap substitutes. Ger. patent application J.73913 IVd/12v dated Dec 21, 1942. In German. 1.50

L 60184 Frames 3852-3855 — Process for producing polyurethanes. Ger. patent application J.73942 IVc/39c dated Dec 24, 1942. In German. 1.50

L 60183 Frames 3856-3856A — Process for producing p-substituted benzene sulfonic ureas. Ger. patent application J.73943 IVc/12o dated Dec 24, 1942. In German. 1.50

L 60182 Frames 3857-3859 — Process for producing carbon disulfide. Ger. patent application J.74001 IVb/12i dated Dec 30, 1942. In German. 1.50

L 60181 Frames 3860-3862 — Dielectrics. Ger. patent application J.73969 VIIIb/12c dated Dec 30, 1942. In German. 1.50

L 60180 Frames 3863-3864 — Process for producing N-monosubstituted amino acids. Ger. patent application J.74002 IVc/12g dated Dec 30, 1942. In German. 1.50

L 60179 Frames 3865-3867 — Process for producing rubberlike polymers. Ger. patent application J.71940 IVc/39c dated Mar 31, 1942. In German. 1.50

L 60178 Frames 3868-3870 — Process for producing artificial fog. Ger. patent application J.72571 IVb/78d dated Jun 29, 1942. In German. 1.50

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L 86259 Frames 3877-3878 — Process for producing 1,1-diaryl-2,2-dichloroethanes. Ger. patent application J.74136 IVd/12o dated Jan. 22, 1943. In German. 2.00

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L 86261 Frames 3882-3884 — Process for concentrating acetic acid. Ger. patent application J.73970 IVd/12o dated Jan 4, 1943. In German. 2.00

L 86262 Frames 3885-3886A — Process for producing water-soluble derivatives from hemicelluloses and "skeleton substances." Ger. patent application J.74051 IVc/12o dated Jan 11, 1943. In German. 2.00

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L 60175 Frames 3892-3899 — Process for manufacturing condensation products. Ger. patent application J.74148 IVc/39c dated Jan 23, 1943. In German. 1.50

L 60174 Frames 3900-3902 — Luminous plasterings. Ger. patent application J.74165 VIb/80b dated Jan 27, 1943. In German. 1.50

L 60173 Frames 3903-3905 — Production of alpha-substituted acroleins. Ger. patent application J.74191 IVd/12o dated Jan 29, 1943. In German. 1.50

L 60172 Frames 3906-3912 — Process for producing tanning agents. Ger. patent application J.74224 IVc/12q dated Jan 29, 1943. In German. 1.50

L 60171 Frames 3913-3915 — Process for producing alpha . alpha. alpha-trichloro-beta.beta-diphenylethane and its substitutes. Ger. patent application J.74192 IVd/12o dated Jan 29, 1943. In German. 1.50

L 60170 Frames 3916-3918 — Process for producing sulfonic acids. Ger. patent application J.74204 IVd/12o dated Jan 30, 1943. In German. 1.50

L 60169 Frames 3919-3929 — Method for achieving three processes simultaneously: Producing power, recovering ammonia from used- and heating fresh precipitating copper liquor in artificial silk manufacture. Ger. patent application J.74364 IVc/29b dated Feb 20, 1943. In German. 1.50
Frame no. 3925 missing; faulty numbering machine; no subject matter missing.

L 86263 Frames 3930-3932 — Process for the manufacture of methylene-(2)-butanol-(1)-one-(3) and homologues thereof. Ger. patent application J.74258 IVd/12o dated Feb 4, 1943. In German. 2.00

L 60168 Frames 3933-3934 — Process for producing colloidal solutions of therapeutic value. Ger. patent application J.74252 IVa/30h dated Feb 4, 1943. In German. 1.50

L 60167 Frames 3935-3937 — Process for eliminating copper from ammoniacal water. Ger. patent application J.74277 IVb/12 1 dated Feb 8, 1943. In German. 1.50

L 60166 Frames 3938-3946 — Process for producing ice colors in textile printing. Ger. patent application J.74318 IVd/8m dated Feb 12, 1943. In German. 1.50

L 60165 Frames 3947-3951 — Condensers. Ger. patent application J.74343 VIIIc/21g dated Feb 16, 1943. In German. 1.50

L 60164 Frames 3952-3953 — Locking device for lids. Ger. patent application J.74331 XII/47h dated Feb 15, 1943. In German. 1.50

L 60222 Frames 3954-3955 — Process for producing black, sulfide-containing enamel. Ger. patent application J.74351 VIb/48c dated Feb 18, 1943. In German. 1.50

L 60145 Frames 3956-3958 — Process for producing black, sulfide-containing enamel. Ger. patent application J.74350 VIb/48c dated Feb 18, 1943. In German. 1.50

L 60146 Frames 3959-3961 — Process for producing preparations of therapeutic value. Ger. patent application J.74387 IVa/30h dated Feb 20, 1943. In German. 1.50

L 60147 Frames 3962-3968 — Method and device for concentrating liquids. Ger. patent application J.74388 IVa/12a dated Feb 22, 1943. In German. 1.50

L 60148 Frames 3969-3971 — Method and device for removing amalgam butter in electrolysis with mercury cathodes. Ger. patent application J.74389 IVb/12 1 dated Feb 23, 1943. In German. 1.50

L 60149 Frames 3972-3979 — Process for manufacturing condensation products. Ger. patent application J.74436 IVc/39b dated Feb 26, 1943. In German. 1.50

L 60150 Frames 3980-3982 — Process for recovering alkali-vanadates. Ger. patent application J.71120 IVb/12i dated Dec 22, 1941. In German. 1.50

L 60151 Frames 3983-3986 — Process for roasting material containing vanadium. Ger. patent application J.71121 VI/40a dated Dec 22, 1941. In German. 1.50

L 60152 Frames 3987-3994 — Process for producing formed rubberlike articles. Ger. patent application J.72720 IVc/39b dated Jul 14, 1942. In German. 1.50

L 60153 Frames 3995-3996 — Production of carbides. Ger. patent application T.58188 IVb/12i dated Oct 24, 1942. In German. 1.50

L 60154 Frames 3997-3999 — Process for purifying oils. Ger. patent application J.73383 IVd/12r dated Oct 16, 1942. In German. 1.50

L 60155 Frames 4000-4007 — Process for binding rubber mixtures to textiles. Ger. patent application J.73391 IVc/39b dated Oct 21, 1942. In German. 1.50

L 60156 Frames 4008-4014 — Process for producing unsaturated compounds. Ger. patent application J.74564 IVc/12o dated Mar 12, 1943. In German. 1.50

L 60157 Frames 4015-4018 — Production of calcium aluminate slag. Ger. patent application J.73474 IVb/12m dated Nov 2, 1943. In German. 1.50

L 60158 Frames 4019-4022 — Adhesive. Ger. patent application J.73726 IVd/22i dated Dec 1, 1942. In German. 1.50

L 60159 Frames 4023-4025 — Process for producing cellulose esters of higher aliphatic acids. Ger. patent application J.74349 IVd/12o dated Feb 15, 1943. In German. 1.50

L 60160 Frames 4026-4027 — Production of alkali solution. Ger. patent application J.74503 IVb/12 1 dated Mar 6, 1943. In German. 1.50

L 60161 Frames 4028-4030 — Process for manufacturing polymerization products from tetrahydrofuran. Ger. patent application J.74600 IVc/12p dated Mar 18, 1943. In German. 1.50

L 60162 Frames 4031-4033 — Process for manufacturing polymerization products from tetrahydrofuran. Ger. patent application J.74601 IVc/12q dated Mar 18, 1943. In German. 1.50

L 60163 Frames 4034-4035 — Process for manufacturing polymerization products from tetrahydrofuran. Ger. patent application J.74602 IVc/12q dated Mar 18, 1943. In German. 1.50

L 60263 Frames 4036-4039 — Process for producing high polymers. Ger. patent application J.74534 IVc/39c dated Mar 12, 1943. In German. 1.50

L 60192 Frames 4040-4045 — Process for separating hemicellulose from aqueous solutions. Ger. patent application J.74571 IVb/55b dated Mar 13, 1943. In German. 1.50

L 60193 Frames 4046-4047 — Batch for enamels or glazings. Ger. patent application J.74536 VIb/48c dated Mar 12, 1943. In German. 1.50

L 60194 Frames 4048-4049 — Process for producing tetraalkyl thiuram disulfides. Ger. patent application J.74576 IVc/12o dated Mar 16, 1943. In German. 1.50

L 60195 Frames 4050-4051 — Enamels, glazings and process for their production. Ger. patent application J.74556 VIb/48c dated Mar 13, 1943. In German. 1.50

L 60196 Frames 4052-4056 — Process for simultaneously generating power, recovering ammonia from used- and heating of fresh precipitating liquor in manufacture of artificial copper silk. Ger. patent application J.74565 IVc/29b dated Mar 13, 1943. In German. 1.50

L 60197 Frames 4057-4059 — Device for carrying fine-grained bulk goods. Ger. patent application J.74 585 III/50e dated Mar 18, 1943. In German. 1.50

L 60198 Frames 4060-4062 — Stuffing box. Ger. patent application J.74 603 XII/47h dated Mar 20, 1943. In German. 1.50

L 60199 Frames 4063-4065 — Process for producing utensils from glass, quartz and similar materials. Ger. patent application J.74 577 VIb/32 dated Mar 17, 1943. In German. 1.50

L 60200 Frames 4066-4068 — Process for producing hollow cylinders. Ger. patent application J.74695 IVb/12g dated Mar 29, 1943. In German. 1.50

L 60201 Frames 4069-4071 — Process for producing cyclohexene-(1)-one-(3)-carboxylic esters-(4). Ger. patent application J.74642 IVc/12o dated Mar 23, 1943. In German. 1.50

L 60202 Frames 4072-4073 — Process for producing cyclohexenone derivatives. Ger. patent application J.74641 IVc/12o dated Mar 23, 1943. In German. 1.50

L 60203 Frames 4074-4076 — Process for preparing derivatives from cyclohexene-(1)-one-(3). Ger. patent application J.74629 IVc/12o dated Mar 23, 1943. In German. 1.50

L 60204 Frames 4077-4078 — Batch for ceramic glazings. Ger. patent application J.74647 VIb/80a dated Mar 24, 1943. In German. 1.50

L 60205 Frames 4079-4081 — Process for producing compounds of the biotin series. Ger. patent application J.74671 IVc/12q dated Mar 24, 1943. In German. 1.50

L 60206 Frames 4082-4083 — Process for producing organic cellulose esters. Ger. patent application J.74896 IVc/12o dated Mar 31, 1943. In German. 1.50

L 60207 Frames 4084-4085 — Process for producing liquid-proof concrete containers. Ger. patent application J.73859 V/37f dated Dec 19, 1942. In German. 1.50

L 60208 Frames 4086-4090 — Fungicide. Ger. patent application J.74697 IVa/45 1 dated Apr 2, 1943. In German. 1.50

L 60209 Frames 4091-4092 — Process for producing compounds of the biotin series. Ger. patent application J.74698 IVc/12q dated Apr 2, 1943. In German. 1.50

L 60210 Frames 4093-4094 — Process for producing aqueous solutions of lactoflavine. Ger. patent application J.74730 IVa/30h dated Apr 2, 1943. In German. 1.50

L 60211 Frame 4095 — Wood briquets. Ger. patent application J.74715 VIb/10b dated Apr 3, 1943. In German. 1.50

L 60212 Frames 4096-4098 — Valve. Ger. patent application J.74750 XII/47g dated Apr 5, 1943. In German. 1.50

L 60213 Frames 4099-4101 — Spraying nozzle for producing strings and profiles on spraying machines. Ger. patent application J.74761 VII/39a dated Apr 8, 1943. In German. 1.50

L 60214 Frames 4102-4106 — Process for improving the workability and the qualities of synthetic rubberlike materials. Ger. patent application J.74731 IVc/39b dated Apr 5, 1943. In German. 1.50

L 60215 Frames 4107-4108 — Preparation of levoglucosan. Ger. patent application J.74789 IVd/12o dated Apr 9, 1943. In German. 1.50

L 60216 Frames 4109-4114 — Process and device for generating power in combination with expelling volatile substances. Ger. patent application J.74854 Ia/14h dated Apr 21, 1943. In German. 1.50

L 60217 Frames 4115-4117 — Process for coloring and printing cellulose fibers with leucosulfuric acid esters of vat dyes. Ger. patent application J.74847 IVd/8m dated Apr 17, 1943. In German. 1.50

L 60218 Frames 4118-4120 — Process for printing with sulfuric acid esters of leuco vat dyes. Ger. patent application J.74831 IVd/8n dated Apr 16, 1943. In German. 1.50

L 60219 Frames 4121-4122 — Wood preservatives. Ger. patent application J.74848 IVd/38h dated Apr 17, 1943. In German. 1.50

L 60220 Frames 4123-4127 — Device for automatic flow control of liquids. Ger. patent application J.74878 IXb/42e dated Apr 24, 1943. In German. 1.50

L 60221 Frames 4128-4130 — Recovery of volatile bases. Ger. patent application J.74861 IVb/12k dated Apr 21, 1943. In German. 1.50

L 60223 Frames 4131-4132 — Process for protecting goods against pests. Ger. patent application J.74868 IVa/45 1 dated Apr 24, 1943. In German. 1.50

L 60224 Frames 4133 — Lead coatings. Ger. patent application J.74867 VIa/48a dated Apr 24, 1943. In German. 1.50

L 60225 Frames 4134-4135 — Process for producing a preparation for promoting growth. Ger. patent application J.74897 IVa/30h dated Apr 28, 1943. In German. 1.50

L 60226 Frames 4136-4137 — Process for recovering the copper from ammoniacal copper- or copper salt complex solution, particularly from the waste liquor of the ammoniacal copper-oxide cellulose industry, by means of resin exchangers. Ger. patent J.74923 IVc/29b dated Apr 30, 1943. In German. 1.50

L 60227 Frames 4138-4143 — Process for producing polyamino compounds. Ger. patent application J.74924 IVi/12g dated Apr 30, 1942. In German. 1.50

L 60228 Frames 4144-4146A — Process for preparing vanadium concentrates from raw materials containing vanadium. Ger. patent application J.68352 VI/40a dated Dec 4, 1940. In German. 1.50

L 60229 Frames 4147-4151 — Pesticides. Ger. patent application J.73424 IVa/45 1 dated Oct 27, 1942. In German. 1.50

L 60230 Frames 4152-4155 — Pesticides. Ger. patent application J.73432 IVa/45 1 dated Oct 29, 1942. In German. 1.50

L 60231 Frames 4156-4160 — Process for producing (thio) phosphoric acid-tridialkylamides or monohalogen-(thio)phosphoric acid-di-dialkylamides. Ger. patent application J.73934 IVc/12q dated Dec 30, 1942. In German. 1.50

L 60232 Frames 4161-4164 — Process for producing arsenic, silicon, and boron polyamide compounds. Ger. patent application J.73860 IVc/12q dated Dec 19, 1942. In German. 1.50

L 60233 Frames 4165-4166 — Process for rendering combustible material water-repellent and flameproof. Ger. patent application J.73759 IVd/8k dated Dec 7, 1942. In German. 1.50

L 60234 Frames 4167-4171 — Process and device for continuous silica removal from aluminate solutions. Ger. patent application J.74149 IVb/12g dated Jan 23, 1943. In German. 1.50

L 60235 Frames 4172-4174 — Process for preparing vanadium concentrates from raw material containing vanadium. Ger. patent application J.73992 VIa/40a dated Jan 7, 1943. In German. 1.50

L 60236 Frames 4175-4180 — Process for manufacturing condensation products. Ger. patent application J.74944 IVc/39c dated May 3, 1943. In German. 1.50

L 60237 Frames 4181-4184 — Process for manufacturing synthetic rubberlike products. Ger. patent application J.74945 IXc/39c dated May 4, 1943. In German. 1.50

L 60238 Frames 4185-4187 — Process for separating phenols from oils. Ger. patent application J.74998 IVc/12o dated May 12, 1943. In German. 1.50

L 60239 Frames 4188-4190 — Process for fixing the spinning funnel to the spinning head. Ger. patent application J.75072 VII/29a dated May 19, 1943. In German. 1.50

L 60240 Frames 4191-4192 — Process for recovering phenols from their aqueous solutions. Ger. patent application J.75073 IVc/12q dated May 20, 1943. In German. 1.50

L 60241 Frames 4193-4195 — Process for manufacturing condensation products. Ger. patent application J.75188 IVc/39c dated May 26, 1943. In German. 1.50

L 60242 Frames 4196-4197 — Process for improving the light fastness of direct color on cellulose fibers. Ger. patent application J.75139 IVd/8m dated May 26, 1943. In German. 1.50

L 60243 Frames 4198-4200 — Process for improving the odor of carbonization products, etc. Ger. patent application J.75189 IVd/12r dated May 29, 1943. In German. 1.50

L 60244 Frames 4201-4202 — Process for producing nitriles. Ger. patent application J.72946 IVc/12o dated Aug 12, 1942. In German. 1.50

L 60245 Frames 4203-4204 — Process for producing nitriles. Ger. patent application J.73428 IVc/12o dated Oct 23, 1942. In German. 1.50

L 60246 Frames 4205-4206 — Process for destroying insects. Ger. patent application J.75229 IVa/45 1 dated Jun 9, 1943. In German. 1.50

L 60247 Frames 4207-4212 — Process for fractional distillation or rectification. Ger. patent application J.75201 IVa/12a dated Jun 2, 1943. In German. 1.50

L 60248 Frames 4213-4223 — Process for producing quarternary compounds of the polycyclic series. Ger. patent application J.75202 IVb/12q dated Jun 2, 1943. In German. 1.50

L 60249 Frames 4224-4226 — Luminous paints and process for production. Ger. patent application J.75245 IVb/22f dated Jun 11, 1943. In German. 1.50

L 60250 Frames 4227-4230 — Process for decomposition of oils containing phenols. Ger. patent application J.75237 IVc/12q dated Jun 9, 1943. In German. 1.50

L 60251 Frames 4231-4234 — Process for finishing textile materials. Ger. patent application J.75324 IVd/8k dated Jun 16, 1943. In German. 1.50

L 60252 Frame 4235 — Pigments. Ger. patent application J.75303 IVb/22f dated Jun 19, 1943. In German. 1.50

L 60253 Frame 4236 — Process for producing 1,1-diaryl-2,2-dichloroethanes. Ger. patent application J.75301 IVd/12o dated Jun 18, 1943. In German. 1.50

L 60254 Frames 4237-4238 — Process for producing p-substituted benzene sulfothioureas. Ger. patent application J.75256 IVc/12a dated Jun 15, 1943. In German. 1.50

L 60255 Frames 4239-4241 — Plastic molding material, especially for dental purposes. Ger. patent application J.75335 IXa/30b dated Jun 25, 1943. In German. 1.50

L 60256 Frames 4242-4243 — Process for obtaining utilizable products from coal carbonization tar. Ger. patent application J.75302 IVd/12o dated Jun 18, 1943. In German. 1.50

L 60257 Frames 4244-4245 — Process for working up residues containing copper. Ger. patent application J.75317 IVa/40a dated Jun 22, 1943. In German. 1.50

L 60258 Frames 4246-4248 — Reduction process. Ger. patent application J.75345 IVc/12o dated Jun 22, 1943. In German. 1.50

L 60259 Frames 4249-4250 — Process for producing opaque enamels. Ger. patent application J.75334 VIb/48c dated Jun 25, 1943. In German. 1.50

L 60260 Frames 4251-4256 — Stabilizing agent for synthetic rubber-like masses. Ger. patent application J.75535 IVc/39b dated Jul 21, 1943. In German. 1.50

L 60261 Frames 4257-4259 — Process for separation of phenol oils into mono and polyvalent phenols. Ger. patent application J.75449 IVc/12q dated Jul 7, 1943. In German. 1.50

L 60262 Frames 4260-4262 — Process for carrying out chemical reactions. Ger. patent application J.75478 IVb/12q dated Jul 12, 1943. In German. 1.50

L 60264 Frames 4263-4268 — Process for producing microporous rubber masses permeable to gas and water. Ger. patent application J.75595 IVc/39b dated Jul 24, 1943. In German. 1.50

L 60265 Frames 4269-4271 — Process for producing chloroacetaldehyde. Ger. patent application J.75534 IVd/12o dated Jul 19, 1943. In German. 1.50

L 60266 Frames 4272-4276 — Method and device for testing the serviceability of textiles, weaves, and other substantially flat material. Ger. patent application J.75562 IXb/42k dated Jul 23, 1943. In German. 1.50

L 60267 Frames 4277-4278 — Process for producing o,o'-dioxybenzil. Ger. patent application J.75596 IVd/12o dated Jul 26, 1943. In German. 1.50

L 60268 Frames 4279-4280 — Process for producing hexene-(2)-olid-(5,1). Ger. patent application J.75605 IVc/12q dated Jul 26, 1943. In German. 1.50

L 60269 Frames 4281-4285 — Energy transmitter. Ger. patent application J.70760 IVd/23c dated Oct 31, 1941. In German. 1.50

L 60270 Frames 4286-4289 — Process for manufacturing condensation products. Ger. patent application J.74109 IVc/12o dated Jan 20, 1943. In German. 1.50

L 60271 Frames 4290-4292 — Process for printing on textile fibers. Ger. patent application J.75657 IVd/8a dated Aug 9, 1943. In German. 1.50

L 60272 Frames 4293-4298 — Slide rule for shapers. Ger. patent application J.75708 IXb/42m dated Aug 18, 1943. In German. 1.50

L 60273 Frames 4299-4301	Bubble columns. Ger. patent application J.75635 IVa/12a dated Aug 2, 1943. In German.	1.50
L 60274 Frames 4302-4304	Stabilizing agent for synthetic rubberlike masses. Ger. patent application J.75634 IVc/39b dated Aug 2, 1943. In German.	1.50
L 60275 Frames 4305-4306	"De-basting" of natural silk. Ger. patent application J.75717 IVc/29b dated Aug 20, 1943. In German.	1.50
L 60276 Frames 4307-4309	Production of plywood shapes. Ger. patent application J.75746 XII/38h dated Aug 21, 1943. In German.	1.50
L 60277 Frames 4310-4311	Agent for mothproofing furs, etc. Ger. patent application J.75744 IVd/8k dated Aug 25, 1943. In German.	1.50
L 60278 Frames 4312-4316	Flange packing. Ger. patent application J.75760 XII/47f dated Aug 28, 1943. In German.	1.50
L 60279 Frame 4317	Exchange column with plates. Ger. patent application J.75787 IVa/12a dated Aug 28, 1943. In German.	1.50
L 60280 Frame 4318	Chromium plating. Ger. patent application J.73480 VIa/18d dated Nov 3, 1942. In German.	1.50
L 60281	Patent applications of the Leverkusen office. Index 1936-1943. In German.	4.00

PHOTOGRAPHIC AND OPTICAL GOODS (INCLUDING PHOTOGRAPHIC PROCESSING)

PB L 73198. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Correspondence and patent applications for optical instruments. (FIAT Microfilm Reel N 11, Frames 7761-7934) 1922, 1928. 174 f. Price: Microfilm-$2.50 - Enlargement print-$17.50

This FIAT microfilm reel consists of two patent applications and correspondence with the German Patent Office, etc., for optical instruments listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $2.50. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
7761-7878 PB L 73198	STÜTZER, R. (Inventor). Direction finder. Ger. patent application St 40 095 IX/42e dated Nov 27, 1922. In German. Supplement to patent 398 603. Drawings. Continued from Reel N 10, PB 73197.	12.00
7879-7934 PB L 73198	BEREK, M. (Inventor). Rapid objective. Ger. patent application L 73 792 /42h dated Dec 25, 1928. In German. Graphs and drawings.	6.00

PB L 73167. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Miscellaneous patents; patent and design patent applications. (FIAT Microfilm Reel I-47, Frames 5735-6364) 1934-1943. 630 f. Price: Microfilm-$6.00 - Enlargement print-$63.00

This FIAT microfilm reel consists of 49 Leitz patents and patent and design patent applications for optical and other apparatus as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
5735-5739 PB L 73167	HORNUNG, J. (Inventor). Arrangement for testing apparatus, etc. Ger. design patent application L 37 807 gm 42b dated Feb 7, 1943. In German. Supplement to patent application L 111 987. Drawings included.	$1.50
5740-5745 PB L 73167	ROSENTHAL, G. (Inventor). Relay for current regulation. Ger. design patent application L 37 649 gm 21 g dated May 27, 1943. In German. Supplement to patent application L 111 641 VIII/21c. Drawing included.	1.50
5746-5751 PB L 73167	SCHÄFER, K. and others (Inventors). Sighting device. Ger. design patent application L 37 578 gm 72f dated May 27, 1943. In German. Supplement to patent application L 111 599 XI/72f. Drawing included.	1.50
5752-5758 PB L 73167	BAUER, H. and others (Inventors). Eyepiece protection cap for telescopes. Ger. design patent application L 37 576 gm 42h dated May 27, 1943. In German. Drawing included.	1.50
5759-5763 PB L 73167	BECKER, H. (Inventor). Arrangement for leveling the adjustable horizontal beam in machines for tooling metals and similar materials. Ger. design patent application L 37 413 gm 49b dated Apr 22, 1943. In German. Supplement to patent application L 111 284 Ib/49b. Drawing included.	1.50
5764-5771 PB L 73167	BROSCHKE, H. (Inventor). Guide for the penetration body of a hardness tester. Ger. design patent application L 37 414 gm 42k dated Apr 22, 1943. In German. Supplement to patent application L 111 280 IXb/42k. Drawings included.	1.50
5772-5777 PB L 73167	KOCH, A. (Inventor). Adjustment device for prisms. Ger. design patent application L 37 279 gm 42h dated Apr 2, 1943. In German. Supplement to patent application L 110 084 IXa/42h. Drawing included.	1.50
5778-5784 PB L 73167	LEITZ, L. (Inventor). Sighting device. Ger. design patent application L 37 233 gm 42h dated Apr 2, 1943. In German. Supplement to patent application L 111 072 IXa/42h. Drawings included.	1.50
5785-5791 PB L 73167	LEITZ, E. and others (Inventors). Telescope built into a vehicle. Ger. design patent application L 37 157 gm 42h dated Mar 4, 1943. In German. Supplement to patent application L 110 948 IXa/42h. Drawings included.	1.50
5792-5798 PB L 73167	BROSCHKE, H. (Inventor). Hardness tester based on the penetration principle. Ger. design patent application L 37 190 gm 42k dated Mar 24, 1943. In German. Supplement to patent application L 110 969 IXb/42k. Drawings included.	1.50

5799-5808 PB L 73167 LEITZ, L. and others (Inventors). Telescopic gun sight. Ger. design patent application L 37 407 gm 72f dated Apr 24, 1943. In German. 1.50
Supplement to patent application L 111 282 IXa/72f. Drawings included.

5809-5814 PB L 73167 MULCH, K. (Inventor). Illumination arrangement for direct light projection. Ger. design patent application not given and not dated. In German. 1.50
Supplement to patent application L 110 898 IXa/42h. Drawing included.

5815-5822 PB 73167 STÜTZER, R. (Inventor). Optical sighting arrangement for the direct aiming purposes. Ger. design patent application L 37 020 gm 72f dated Mar 2, 1943. In German. 1.50
Supplement to patent application L 110 725 IX/72f. Drawings included.

5823-5826 PB L 73167 HORNUNG, J. (Inventor). Closed ball guide for mechanical precision instruments. Ger. design patent application L 37 648 gm 42d, n.d. In German. 1.50
Supplement to patent application L 111 623 IXb/42d. Drawing included.

5827-5832 PB L 73167 ZIMMERMANN, O. (Inventor). Telescope with variable enlargement. Ger. design patent application not given and not dated. In German. 1.50
Supplement to patent application L 110 754 IXa/42h. Drawing included.

5833-5840 PB L 73167 MEINHARDT and others (Inventors). Optical measuring arrangement. Ger. design patent application L 37 019 gm 42c dated Mar 2, 1943. In German. 1.50
Supplement to patent application L 110 724 IXb/42c. Drawings included.

5841-5847 PB L 73167 LEITZ, E. (Inventor). Method for finding the exact limits of a polished body. Ger. design patent application L 36 839 gm 42b dated Feb 8, 1943. In German. 1.50
Supplement to patent application L 110 485 IXa/42b. Drawing included.

5848-5855 PB L 73167 SCHÄFER, W. (Inventor). Infinitely variable friction gear. Ger. design patent application L 39 799 gm 47h dated Feb 2, 1943. In German. 1.50
Supplement to patent application L 110 438 XII/47h. Drawings included.

5856-5862 PB L 73167 SEIBERT, A. (Inventor). Supplementary optical system for microscopes. Ger. design patent application L 36 800 gm 42h dated Feb 4, 1943. In German. 1.50
Supplement to patent application L 110 423. Drawing included.

5863-5872 PB L 73167 RIEDE and others (Inventors). Telescope. Ger. design patent application L 36 505 gm 42h dated Dec 28, 1942. In German. 1.50
Supplement to patent application L 110 044 IXa/42h. Drawings included.

5873-5881 PB L 73167 STEIN, W. and others (Inventors). Electric exposure meter for cameras. Ger. design patent application L 36 504 gm 57a dated Dec 28, 1942. In German. 1.50
Supplement to patent application L 110 043 IXa/57a. Drawings included.

5882-5886 PB L 73167 LEITZ, E. and others (Inventors). Asymmetrical range finder. Ger. design patent application L 36 561 gm 42c dated Jan 11, 1943. In German. 1.50
Supplement to patent application L 110 160 IXb/42c. Drawing included.

5887-5897 PB L 73167 STÜTZER, R. (Inventor). Tripod, especially for geodetic instruments. Ger. design patent application L 36 364 gm 42c dated Dec 10, 1943. In German. 1.50
Supplement to patent application L 109 852 IXb/42c. Drawings included.

5897-5904 PB L 73167 SEIBERT, A. (Inventor). Optical system with other glass bodies, preferably prisms, between its image forming elements. Ger. design patent application L 36 258 gm 42h dated Nov 27, 1942. In German. 1.50
Supplement to patent application L 109 729 IXa/42h. Drawings included.

5905-5912 PB L 73167 LEITZ, E. (Inventor). Arrangement for location of a fast moving body in space. Ger. design patent application L 36 218 gm 42h dated Nov 26, 1942. In German. 1.50
Supplement to patent application L 109 691 XI/72f. Drawing included.

5913-5918 PB L 73167 RIEPERT and others (Inventors). Optical arrangement for surface examination. Ger. design patent application L 36 139 gm 42b dated Nov 16, 1942. In German. 1.50
Supplement to patent application L 109 609 IXb/42b. Drawings included.

5919-5926 PB L 73167 MEINHARDT (Inventor). Adjustment device for machine tools. Ger. design patent application L 36 678 gm 49d dated Nov 4, 1942. In German. 1.50
Supplement to patent application L 109 466 Ib/49d. Drawings included.

5927-5933 PB L 73167 BROSCHKE, H. (Inventor). Microhardness tester based on the penetration principle. Ger. design patent application L 35 971 gm 42k dated Oct 21, 1942. In German. 1.50
Supplement to patent application L 109 327 IXb/42k. Drawings included.

5934-5939 PB L 73167 LEITZ, E. and others (Inventors). Clamping arrangement for tools, especially for cutting heads. Ger. design patent application L 35 970 gm 49b dated Oct 21, 1942. In German. 1.50
Supplement to patent application L 109 326 Ib/49b. Drawings included.

5940-5950 PB L 73167 JAECKEL and others (Inventors). Arrangement for optical recording of results obtained from testing and measuring devices. Ger. design patent application L 35 778 gm

57a dated Sep 26, 1942. In German. 1.50
Supplement to patent application L 109 106 IXa/57a. Drawings included.

5951-5956 PB L 73167 STÜTZER, R. (Inventor). Detachable connection for mechanical precision instruments, especially for sighting devices. Ger. design patent application L 35 777 gm 42h dated Sep 26, 1942. In German. 1.50
Supplement to patent application L 109 105 IXa/42h.

5957-5964 PB L 73167 KALENSEE, W. (Inventor). Arrangement for precise mutual displacement and fixation of two movable parts. Ger. design patent application L 35 779 gm 42d dated Sep 12, 1942. In German. 1.50
Supplement to patent application L 109 324 IXb/42d. Drawings included.

5965-5978 PB L 73167 Arrangement for coating optically effective planes, especially glass surfaces. Ger. design patent application and date not given. In German. 1.50
Supplement to patent application W 107 325 VI/32b. Drawings included.

5979-5987 PB L 73167 SEIBERT, A. (Inventor). Supplementary system for compensation of the chromatic enlargement difference of image forming systems of a microscope. Ger. design patent application L 35 432 gm 42h dated Aug 1, 1942. In German. 1.50
Supplement to patent application L 108 618 IXa/42h. Drawing included.

5988-5994 PB L 73167 LEITZ, L. (Inventor). Arrangement for the prevention of fogging of transparent surfaces, especially glass surfaces in observation telescopes. Ger. design patent application L 35 354 gm 42h dated Jul 21, 1942. In German. 1.50
Supplement to patent application L 108 498/42h. Drawing included.

5995-6000 PB L 73167 STÜTZER, R. (Inventor). Reading arrangement for goniometric devices. Ger. design patent application L 34 067 gm 42c dated Jan 14, 1942. In German. 1.50
Supplement to patent application L 106 831 IXb/42c. Drawings included.

6001-6006 PB L 73167 STEIN, W. (Inventor). Camera with an exposure meter. Ger. design patent application L 33 147 gm 57a dated Oct 22, 1941. In German. 1.50
Supplement to patent application L 105 678 IXa/57a.

6007-6012 PB L 73167 MAY, E. (Inventor). Illumination arrangement for arc-lamp projectors. Ger. design patent application L 32 992 gm 42h dated Sep 27, 1941. In German. 1.50
Supplement to patent application L 105 493 IXa/42h.

6013-6017 PB L 73167 MAY, E. (Inventor). Adjustable feeding device for projection arc lamps. Ger. design patent application L 32 450 gm 21f dated Jul 12, 1941. In German. 1.50
Supplement to patent application L 104 855 VIII/21f.

6018-6025 PB L 73167 BROSCHKE, H. (Inventor). Camera with an electric exposure meter. Ger. design patent application L 32 269 gm 57a dated Jun 19, 1941. In German. 1.50
Supplement to patent application L 104 643 IXa/57a.

6026-6030 PB L 73167 MAY, E. and others (Inventors). Carbon feeding device for projection arc lamps. Ger. design patent application L 31 732 gm 21f dated Apr 12, 1941. In German. 1.50
Supplement to patent application L 103 914 VIIIc/21f.

6031-6032 PB L 73167 BEREK and others (Inventors). Photographic objective. Ger. design patent application L 29 072 gm 42h dated May 6, 1940. In German. 1.50
Supplement to patent application L 100 751 IXa/42h.

6033-6050 PB L 73167 LEITZ, L. and others (Inventors). Camera with a built-in exposure meter. Ger. design patent application L 28 032 gm 57a dated Dec 4, 1939. In German. 2.00
Supplement to patent application L 99 589 IXa/57a. Drawings included.

6051-6056 PB L 73167 BECKER, H. (Inventor). Measuring table. Ger. design patent application L 27 433 gm 42c dated Aug 28, 1939. In German. 1.50
Supplement to patent application L 98 902 IXb/42c. Drawing included.

6057-6058 PB L 73167 ZIMMERMANN, O. (Inventor). Lid for photographic objectives. Ger. design patent application dated Jul 11, 1939. In German. 1.5[illegible]
Supplement to patent application L 98 487 IXa/57a. Incomplete.

6059-6202 PB L 73167 Rapid photographic objectives (Summary). Ger. design patent application L 91 070 IXa/42h dated Sep 2, 1936. In German. 14.50
Including various draft revisions and correspondence with the German Patent Office covering the time from 1936 to 1944. Drawings included.

6203-6299 PB L 73167 Method for production of coatings on optically effective surfaces, especially glass surfaces. Ger. design patent application W 106 562 VIb/32b dated Nov 17, 1939. In German. 10.00
Including various draft revisions and correspondence with the German Patent Office up to 1944.

6300-6361 PB L 73167 DISTELI, A. (Inventor). Method for the examination of watch movements and similar retardation controlled instruments. Ger. patent 634 923, Sep 5, 1936. Ger. patent application D 70 175 IX/42c dated May 25, 1934. In German. 6.50
Drawings. Includes correspondence with the German Patent Office. Some frames may not reproduce well.

6362-6364 PB L 73167 Camera with an attachable exposure meter. Ger. Patent 634 016, Aug 14, 1936. Application L 89 088 IX/57a dated Oct 31, 1935. In German. 1.50

REGISTER OF PATENTS AVAILABLE FOR LICENSING OR SALE

Information on the following patents can be obtained from the U. S. Patent Office, Washington 25, D. C.

The "Groups" appearing after the patent abstracts are based on the Standard Industrial Classification Manual, Vol. I, Manufacturing Industries, Executive Office of the President, Bureau of the Budget.

Official Gazette, December 23, 1947.

PAT. 2,415,210. Centrifuge for separating molten metals from slag. Patented Feb 4, 1947.
Apparatus for refining metals by centrifugal action, whereby metal is separated from the slag. A revolving conical-shaped hopper is supported vertically, apex downward, into which molten ore is introduced through inlet at bottom by pipe from a blast furnace. As hopper revolves, molten metal is forced by centrifugal action through apertures in the wall into an annular receiving chamber. The lighter slag rises higher through center of molten material and passes out through upper apertures. (Owner) Eugene Hoefling, Route 1, Box 287, Salem, Oreg. Group 35-59. Reg. No. 8,937.

PAT. 2,425,199. Egg cooker. Patented Aug 5, 1947.
A waterless automatic electric egg cooker. It consists of a box-like structure with time control dial and automatic cut-off. A shell-shaped receptacle for a single egg (surrounded by suitable heat-resisting material) is in center of box, the lower half supported in base, the upper half aligned on inside of hinged cover. Heating elements are positioned around the egg. The hinged cover is swung open automatically by a coiled spring on expiration of pre-determined time of cooking. Modifications show a number of cookers hooked up in multiple, each having its own dial control. (Owner) Haimi Mavon, 944 Newkirk Ave., Brooklyn 30, N. Y. Group 36-21. Reg. No. 8,938.

PAT. 2,273,742. Lapel for reversible coats and the like. Patented Feb 17, 1942.
A method of cutting the outside and inside layers of coat material to project well beyond the front of the coat so that by an extra folding a lapel is formed which is bent forward or backward to show either the outside or inside material as the coat is reversed. The lapel is buttoned to either side as desired. Modifications consist of coverings to slip over the lapel. (Owner) Charles Weinberg, 830 West 177th St., New York 33, N. Y. Group 23-11-31-62. Reg. No. 8,939.

PAT. 2,396,148. Lifesaving and sporting raft. Patented Mar 5, 1946.
A foldable raft for use as a lifesaving or sporting float. Two rectangular wood frames comprising a head section and a foot section are pivotally hinged together, with semi-cylindrical floats of cork or any suitable material attached to under sides. As raft is unfolded and sections bolted in end-aligned operative position, two spring-controlled flag-mounted poles extend vertically of the frame. An inclined head rest, a blanket fastened across opening of head section, and a safety belt enable a person to lie face upward on the raft. Paddles are attached at sides. Modifications are shown. (Owner) Harry J. Bean, 1753 Bedford St., Los Angeles 35, Calif. Groups 25-92; 37-32; 39-49. Reg. No. 8,940.

PAT. 2,015,284. Game. Patented Sept 24, 1935.
A game board for playing baseball using same rules as in actual baseball. Board comprises a number of stops and cut-outs arranged at various angles to and distances from batter's box each having reward and penalty values. The ball is directed by pitcher through a chute arranged to give it "spin" toward the manually controlled bat, which is pivotally mounted on batter's box and strikes the ball, propelling it toward one of the stops. A "stolenbase" cut-out opening at one side of "home" receives ball if it has excessive spin. (Owner) Francis L. Phelan, 231 Allston St., Cambridge, Mass. Group 39-41. Reg. No. 8,941.

PAT. 1,787,745. Dancing figure. Patented Jan 6, 1931.
An automatic dancing figure attachment for a phonograph. A casing with a vibration board is attached to phonograph adjacent the turntable. An upright rod is attached to casing from which the dancing figure is suspended, its feet touching vibration board. A cover with edge projection is placed on the turntable. The projections engage a spring-controlled lever, causing figure to dance. (Owner) Michael J. Hand, Sacred Heart Church, Met Hospital, Welfare Island, New York, N. Y. Groups 36-61; 39-41; 40. Reg. No. 8,942.

PAT. 2,427,146. Pasteurizer. Patented Sept 9, 1947.
A pasteurizer for handling large or small gallonage. An inner receptacle for milk and an outer insulated receptacle for water are in sealed engagement near the top to provide a closed water chamber around the sides and below inner shell. Inner receptacle is provided with a plunger, a discharge pipe with faucet, and a centrally hinged cover. A plurality of electric heating elements (of the immersion type) thermostatically control the temperature of the water, which in turn heats the milk. When water attains pre-determined temperature, moderately above the holding point of pasturization, milk poured into inner receptacle is heated so that at end of a 30-minute holding period (during which time power is shut off) the fluids balance at required temperature. (Owner) William T. Lee, 241 St. John's Road, Toronto 9, Ontario, Canada. Groups 35-51; 36-21. Reg. No. 8,943.

PAT. 2,318,149. Ash receiver. Patented May 4, 1943.
An ash tray is constructed to serve a triple purpose. Inside an outer flute-edged tray is fastened a bowl-shaped inner ash tray so that a wedge-shaped recess is formed between the trays. This recess is designed for snuffing out a lighted cigarette left burning on the tray when the cigar or cigarette falls down into the recess. May be made of a wide variety of materials and by many manufacturing processes. (Owner) Sidney Ferman, 1915 Longfellow Ave., Bronx, New York, N. Y. Groups 32-29-69; 40. Reg. No. 8,944.

PAT. 2,369,415. Method of repairing cracked cylinder heads and blocks. Patented Feb 13, 1945.
This method is designed to reapir cracked cylinder heads or blocks without dismantling the engine and to conceal all signs of damage. The cylinder head is subjected to heat, and a wedge-shaped tool driven into crack, spreading the walls to V-form. A straight-edged tool is driven in crack, cutting away portions of walls and forcing cuttings into bottom of crack. A filler bar of malleable metal having a straight and a curved edge is placed above the cuttings and subjected to pressure to fill the crack. Portions of metal at upper edges of crack, which became raised when crack was widened, are forced over the filler bar, tying the bar within the crack. (Owner) Edgar B. Sherman, 115 Oak St., Darlington, S. C. Group 35-41-59-69. Reg. No. 8,945.

PAT. 2,413,454. Vending machine.
Patented Dec 31, 1946.
Coin-operated machine dispenses ice cream bars. Bars are stacked in refrigerated compartment over a platform having spaced guide rails and a U-shaped strap fastened horizontally to sides of a wheeled plunger and sized to accommodate one bar. When inserted coin unlocks mechanism, inclined top surface of plunger separates lowest bar, raising stack to jar apart frozen bars and dropping lowest bar upon guide rails within confines of strap. As bar is pushed forward onto a chute, a spring returns plunger to position. (Owner) Ival E. Kidwell, 6053 Ethel Ave., Van Nuys, Calif. Group 35-73. Reg. No. 8,946.

PAT. 2,428,116. Combination ash tray, flower and candle holder. Patented Sept. 30, 1947.
A combination ash tray and flower and candle holder in which ashes are out of sight and protected from being blown about. An open-top container has a removable cover provided with slots to allow ashes to fall into container; a center circular opening with downward concealed flanges supports a candle; and an open space surrounding the candle serves either to receive cigarette stubs or flowers. A tubular insert below cover, containing horizontally extending wires and flanged openings aligned with those of cover, furnishes support of candle and flower stems and disposal of ashes to bottom of container. May be made of any rust-resisting material. (Owner) Jens Jensen, 167 Liberty Road, Englewood, N. J. Groups 32-29; 33-73; 40. Reg. No. 8,947.

PAT. 2,427,628. Selective dispenser for phonograph records. Patented Sept 16, 1947.
A coin-controlled vending machine for phonograph records comprises a cylindrical reservoir divided transversely into compartments with a slot at front of each compartment through which records pass into a receiving pan. A pusher plate, released by coin-controlled mechanism, enters slot in rear of compartment and pushes out the record. Labels in front indicate records in compartment, and a signal shows when supply is exhausted. Records are inserted through hinged openings at rear. (Owner) Hyman P. Silverman, 216 Denham Bldg., Denver 2, Colo. Group 35-73. Reg. No. 8,948.

PAT. 2,201,801. Baking oven. Patented May 21, 1940.
An oven in which bread, cakes, etc., may be baked at differently selective temperatures. A number of independently controlled baking compartments with conventional oven doors are disposed one above another over a heating chamber, with heat-conducting areas between. Suspended shutter means fitting in grooves across the top of each compartment are manually operated to regulate flow of heat into compartment. A manually operated damping device regulates the escape of heat into a chimney in center of roof. (Owner) George Stavron, 748 St. Marks Ave., Brooklyn, N. Y. Groups 35-51; 36-21. Reg. No. 8,949.

PAT. 2,342,535. Vehicle driven pontoon.
Patented Feb 22, 1944.
A single pontoon equipped with adjustable propulsion and steering mechanism is propelled (for ferry service) by power transmitted from the rear wheels of a motor vehicle after it has been driven onto the pontoon. The front wheels of the vehicle are turned to operate the pontoon steering mechanism. Each rear wheel depresses an endless belt (or chain) between a pair of pulleys so that the wheel rests on the belt and pulleys. Rotation of the wheels frictionally drives the belts. Vertically hinged doors may surround the top of pontoon and either end-door may function as a gangplank by lowering it to contact shore or an adjacent pontoon. When used to build a continuous pontoon bridge, all doors may be folded inwardly to provide a durable road surface for heavy artillery, tanks, etc. A modification shows a water ski having four pontoons. (Owner) John Froya, 32-50 84th St., Jackson Heights, Long Island, N. Y. Group 37-51. Reg. No. 8,950.

PAT. 2,358,501. Jack or elevator device for vehicles.
Patented Sept 19, 1944.
Power operated jack or elevator apparatus of the wheeled transportable type for motor vehicles is operated by power transmitted thereto from the rear wheels of a vehicle after it has been driven onto the apparatus. Each rear wheel of vehicle depresses an endless belt (or chain) between a pair of pulleys so that the wheel rests on the belt and pulleys. Forward rotation of wheels raises the apparatus and reverse rotation lowers it. Idler rollers are provided for supporting the front wheels to permit them to rotate freely when vehicle is of the type having four-wheel drive. Apparatus is adjustable to accommodate various types of motor vehicles. (Owner) John Froya, 32-50 84th St., Jackson Heights, Long Island, N. Y. Groups 33-52; 35-62, 69. Reg. No. 8,951.

PAT. 2,228,610. Display apparatus. Patented Jan 14, 1941.
This is a display apparatus for show windows, in which a central curtain serves as a background for articles displayed. A continuous track-way is provided around the central curtain. A belt, supported by track-way, has a carrier attached thereto which supports articles displayed and keeps them moving in a continuous path around the curtain, appearing and disappearing between the background and end curtains. Thus, wearing apparel, exhibited upon dummies, is shown in natural relationship of moving toward and away from observer. (Owner) Mrs. Gladys J. Reid, R. F. D. 2, West Alexandria, Ohio. Groups 35-62; 39-92. Reg. No. 8,952.

PAT. 2,358,599. Pan lifter. Patented Sept 19, 1944.
A detachable handle for lifting and handling hot plates, pans, etc. It consists of a long handle with a metal strip at one end curved to follow the shape of outer wall of pan, with knobs on inner side to bear against the pan. A tongue projecting from center of strip curves upward and slightly backward to engage head of the pan. (Co-owners) Howard W. Schultz, Frank W. Schultz, Bertha Schultz. Address correspondence to Howard W. Schultz, 10716 So. Arlington Ave., Los Angeles, Calif. Groups 33-73; 40. Reg. No. 8,953.

PAT. 2,048,295. Corn saving device. Patented July 21, 1936.
An attachment fastened to any conventional corn binder is designed to push aside from path of the drive wheel loose ears of corn fallen to the ground from the binder. It comprises an obtuse-angular frame so pivoted to frame of corn binder as to drag along the ground, apex forward, in front of drive wheel and deflect loose ears from path of the wheel. (Owner) Albert Rode, 1629 E. Fourth St., Dayton, Ohio. Group 38-22. Reg. No. 8,954.

PAT. 2,420,965. Closing flap for envelopes and the like.
Patented May 20, 1947.
An envelope or equivalent mailing article has both sealing flap and co-acting "stick down surface" of body provided with corrugated spaces gummed alternately to avoid inadvertent self-sealing in tropical climates. Gummed spaces on flap strike nongummed spaces on body when flap is closed. (Owner) Edward J. Malo, 4550 Foster Ave., Chicago 30, Ill. Group 26-41, 92.
Reg. No. 8,955.

PAT. 2,427,838. Bottle carrier. Patented Sept 23, 1947.
A light-weight metal bottle carrier for soft drinks, from which bottles hang suspended. Center portion is a rectangular plate with center carrying handle and apertures along sides in which necks of capped bottles are held. On each side of rectangle is an upward-bent flange in which fan-shaped apertures correspond to those in main trough, forming continuous slots. A bottle is tilted and neck inserted in a flange aperture; it bridges the bend and, as bottle becomes vertical, neck is held in the smaller aperture. (Owner) Roy T. Cox, Marion, Ind. Groups 33-73; 40. Reg. No. 8,956.

DES. PAT. 147,363. Tobacco smoking pipe. Patented Aug 26, 1947.
Design for a tobacco smoking pipe. (Owner) Frank J. Danilowicz, c/o Daniels Lifetime Products, 775 East 152nd St., Cleveland 10, Ohio. Group 36-96. Reg. No. 8,957.

PAT. 2,422,901. Rotary pump. Patented June 24, 1947.
Power transmission mechanism, comprising a rotary pump of the centrifugal type, is provided with an axial fluid inlet conduit at its center adapted to direct an inflowing fluid medium (preferably oil) radially outwardly and directly behind the expelling edges of a plurality of blades of the pump. When the blades are revolved by a driving member, they act on the fluid in such manner as to force it axially from the pump through a passage surrounding the fluid inlet. The patent shows the pump connected to reversible fluid motors of the expansible chamber type by suitable apparatus including valve control mechanism for controlling operation of the motors. This combined arrangement is adapted to be used in place of the usual transmission gearing and differential of motor vehicles although not limited thereto. (Owner) George D. Hunter, Box 761, Rocky Mount, N. C. Groups 35-61-66; 38-31. Reg. No. 8,958.

PAT. 2,425,604. Handle for cook pots. Patented Aug 12, 1947.
A removable lifter for cooking pots. A rod is disposed over top of cooking pot, curved at one end with metal finger to engage farther handle of the pot. A spring-operated lever fastened near the grip end of rod is manipulated by operator's fingers to fasten hinged socket members around nearer handle of pot and prevent its tilting. Device is designed to adjust to different sized pots and, once attached, to hold the pot firmly until released, even when contents are being poured out. (Owner) Herman Eckhoff. Address correspondence to Munn, Liddy & Glascoun, 24 West 40th St., New York 18, N. Y. Groups 34-41-99; 40. Reg. No. 8,959.

PAT. 2,427,251. Training sandal. Patented Sept 9, 1947.
An auxiliary sandal for athletes to be worn under soles of regular shoes to strengthen and develop muscles during training. Comprises a metal base with a heel standard and a T-shaped adjustment, with a toe standard clamped to underside of base. A cushion weight, shaped like a shoe sole is fastened between base and cleats of regular shoes. Cleats are provided on underside of sandal. Instep and ankle straps hold sandal in place. (Owner) Lawrence L. Bray, 829 Michigan Ave., Sheboygan, Wis. Group 39-49. Reg. No. 8,960.

Patent Removed from Register

REG. NO. 8,561. Patent 2,200,963. Treatment of egg whites.

Official Gazette, December 30, 1947.

PAT. 2,134,594. Device for displaying a license plate. Patented Oct 25, 1948.
A casing for enclosing a motor vehicle license plate so that the plate is clearly exposed to view and illuminated, when desired, by bulbs within the casing. A window opening in front of casing is closed by a transparent panel. The back wall is hinged to bottom to permit insertion of license plate against back wall. Bolts are passed through registering openings in the plate and wall to secure casing to a supporting bracket carried by a motor vehicle. Casing may be padlocked. (Owner) Speros P. Andelenis, 28 Columbus Ave., New York 23, N. Y. Group 38-31. Reg. No. 8,961.

PAT. 2,427,698. Insulating and ventilating structure. Patented Sept 23, 1947.
Wall structure for providing thermal or acoustic insulation for room or compartment, particularly heated cabins of aircraft. It comprises separate outer wall (skin of airplane) and inner wall (chamber) between which is a passage for escape of exhaust ventilation air to a suitable exhaust duct. The inner wall of this duct may be of material having acoustic absorption properties and permeable to air. Circulation through inner wall is produced by maintaining a pressure drop between interior of chamber and the exhaust duct, thus tending to maintain the inner wall at a temperature above the dew point of the air, thereby preventing condensation. A part of the heat content of the exhaust ventilation air is transferred to the cabin wall itself instead of being lost with the exhaust air. (Owner) Solar Aircraft Company, San Diego 12, Calif. Groups 32-73; 37-21. Reg. No. 8,962.

PAT. 2,425,830. Adjustable-electrode arc-welding torch. Patented Aug 19, 1947.
A double-electrode arc-welding torch of the type used in atomic hydrogen welding. It comprises a handle with two electrode-supporting rod members to support a pair of electrodes. A stream of hydrogen is directed through the arc between the electrodes and onto the work to be heated. The device is easily manipulated, light in weight, and may be operated for long periods of time without tiring the operator. (Owner) Solar Aircraft Company, San Diego 12, Calif. Groups 35-42; 36-19. Reg. No. 8,963.

Register of Patents (contd)

PAT. 2,428,310. Drafting instrument. Patented Sept 30, 1947.
A drafting instrument for measuring angles and plotting curves, particularly railway and highway curves. It consists of a transparent protractor-like body of 90° segmental form and a tab having an axis-forming aperture. The face is provided with two 90° radius lines, a 45° radius line, arcuate lines of different radii, and tangent lines. An anchor block in bushing of tab forms a bearing about which the bushing and body are rotated on a piece of work. Anchor pin on bottom of block is forced into the work at selected center point. (Owner) R. A. Hendry, P. O. Box 108, Baddeck, Nova Scotia, Canada. Group 39-11. Reg. No. 8,964.

PAT. 2,427,050. Combined knob, scale, and pointer structure. Patented Sept 9, 1947.
A knob for manipulating the control shafts of radios, having a transparent outer end with a pointer visible therein. A stationary dial on inside of knob functions with the pointer. May be applied to any conventional radio control shaft. (Owner) Olaf Gorden, 5140 Ballard Ave., Seattle, Wash. Groups 26-11; 36-61. Reg. No. 8,965.

PAT. 2,212,768. Game apparatus. Patented Aug 27, 1940.
This patent shows a disc-shaped body for providing exercise when tossed at a target painted on the floor of a playing alley. Target may be a circle divided into playing areas. One side of disc is beveled around marginal edge and the other side has a circular recess to enable disc to be grasped and thrown. (Owner) Speros P. Andelenis, 28 Columbus Ave., New York 23, N. Y. Group 39-41. Reg. No. 8,966.

DES. PAT. 141,358. Design for a massaging device or similar article. Patented May 29, 1945.
(Owner) Sophie Burgheimer, 3318 Lake Shore Drive, Apt. 310, Chicago, Ill.
Group 39-22-91. Reg. No. 8,967.

PAT. 2,427,482. Attachment for baby carriages and the like.
Patented Sept 16, 1947.
One or two attachments to rear axle of baby carriage to prevent jar in moving carriage from one level to another. Roller is mounted on a bracket pivotally secured to a spring-controlled rocker member, the entire assembly being attached to rear axle by a set screw. Roller is free of ground on the level but touches curb and supports carriage as wheels are lowered or pulled up. Modification shows a pair of rollers mounted in a yoke. (Owner) David Weissman, 1116 Pine St., Philadelphia 7, Pa.
Group 39-43.
Reg. No. 8,968.

PAT. 2,410,147. Apparatus for grading fruits, vegetables, and other products according to size. Patented Oct 29, 1946.
The product is fed, by motor driven machinery, to a grading belt formed of links and connecting rods providing openings of various sizes. Each opening is controlled by a freely pivoted suspended gate. Each gate is so actuated that the product will be ejected through the opening and pass to a discharge chute, or, if too large for the opening, will be pushed up and sent on to the next larger opening. (Owner) Gustave H. Bleeke. Address correspondence to Edmund W. E. Kamm, 3932 Indiana Ave., Fort Wayne, Ind. Group 35-51.
Reg. No. 8,969.

DES. PAT. 135,390. Transparent sewing machine presser foot.
Patented Mar 30, 1943.
This transparent plastic presser foot for sewing machines is somewhat wider than similar devices and affords a broad space for holding down material around the needle point. The device has a hole through which the needle reciprocates. Its front and rear edges slope upward so that material is given good entrance toward the needle point and is gradually released. Being transparent, the presser foot enables the work to be observed before and after it is engaged by the needle. (Owner) Mrs. Viola Lains, 12532 17th Ave., N. E., Seattle 55, Wash. Groups 35-83; 39-81; 40.
Reg. No. 8,970.

PAT. 2,397,374. Differential gearing.
Patented Mar 26, 1946.
Automobile differential of standard type is provided with hydraulic brake mechanism of simple built-in character between rear wheel axle and the rotary differential gear box. It functions automatically to act as equalizing means, when either wheel loses traction, to preserve most of the power normally transmitted to the other wheel with better traction. This lessens the possibility of an automobile becoming stalled when one wheel rests on a slippery surface and the other rests on a dry surface, or when one wheel rests on a more slippery surface than the other. Each brake functions independently of the other. The brakes do not interfere with operation of the automobile under normal driving conditions. (Owner) Theodor F. Schlicksupp, 52 Vanderbilt Ave., New York 17, N. Y. Groups 35-66; 38-31.
Reg. No. 8,971.

PAT. 2,247,290. Package opener.
Patented June 24, 1941.
This package opener utilizes a conventional single-edge razor blade as a cutter for removing a panel of a package without injuring contents. The opener, integrally formed from sheet metal, comprises a pair of parallel rectangular plates having their lower edges bent angularly outwardly to form a pair of diverging

guide legs, and a top tubular roll portion joining top edges of the plates and serving as a spring hinge to spread plates for inserting razor blade. Blade is angularly held between the parallel flat portions of plates with cutting edge disposed between the guide legs, the backing strip fitting into slots and bolted in at desired angle. In use, the guide legs straddle edge of package to guide and shield blade as opener is drawn along to cut out the panel. (Owner) H. Grinnell Disbrow, 10 Woodside Road, Madison, N. J. Group 33-81. Reg. No. 8,972.

PAT. 2,428,655. Crosscut saw set. Patented Oct 7, 1947.
A hand operated saw set for swaging and adjusting the rake of the teeth of crosscut saws, without damage to the cutting edge. It consists of a pair of pivoted jaws, with a handle extending from each jaw, and a rounded concave anvil portion on one jaw, a hammer on the other. The anvil is a V-shaped cavity into which the tooth of a saw is disposed between the anvil and the hammer for swaging. The closing movement of handles and jaws is regulated by an adjusting screw threaded into the handle. (Owner) Zeb F. Davis, Route 1, Box 379, Candler, N. C. Groups 33-54; 35-53. Reg. No. 8,973.

PAT. 2,106,251. Window structure. Patented Jan 25, 1938.
Construction designed to prevent frosting of windows in cold weather, particularly of motor vehicles. Between the window and an inner pane, the edges of which are fused together, an evacuated space tends to maintain the colder temperature of the outer window and the warmer temperature of the inner, preventing condensation of the moisture of the air in the passenger compartment into frost on the window. A layer of celluloid adhering to the evacuated-space surface of both the outer and inner panes is designed to maintain shatter-resistance of the glass. Modifications are shown. (Owner) Frank G. Ludwig, North State St., Lockport, Ill. Group 38-31. Reg. No. 8,974.

PAT. 2,423,079. Air-duct electric heater. Patented Sept 30, 1947.
An inexpensive electric heating and air-conditioning plant. Two or more rows of conically shaped heating elements project downward from the top wall of a duct and upward from the bottom wall in staggered relation forming baffles for an air current. A pipe carries heated air from duct into a hot air chamber, and thence to various rooms. Cooled and foul air is drawn from the rooms through switch-controlled grilles in lower part of partition walls. This air passes through an air outlet pipe to an electric fan, which blows it through a connecting pipe into the duct containing the heating elements. (Owner) Sim M. Hooper, 512 North Lee Highway, Cleveland, Tenn. Groups 35-84; 36-21. Reg. No. 8,975.

PAT. 2,412,464. Cigarette and safety match holder. Patented Dec 10, 1946.
A holder for a package of cigarettes and safety matches is adjustable to clamp on the steering or gear-shift column of any automobile. It consists of an inverted U-shaped body of metal, plastic, cardboard, or stiff leather with opening at top for insertion of a package of cigarettes, and a device on each side to support a package of safety matches. (Owner) Michael Mayer. Address correspondence to William Isler, 416 Leader Bldg., Cleveland 14, Ohio. Groups 26-91; 31-13; 33-73; 39-81; 40. Reg. No. 8,976.

PAT. 2,424,407. Spreader tool. Patented July 22, 1947.
A simple device, removably attached to a straight edge of a flat trowel or putty knife, is used for uniformly spreading and smoothing plastic materials such as linoleum or asphalt tile paste, or cement. A narrow strip of transversely corrugated metal is screwed to straight marginal edge of tool. As the strip, held at an angle to layer of paste or cement, is manipulated by tool, the corrugations produce grooves into which displaced material flows from the high spots, thus producing a smooth surface. (Owner) Michael Mayer. Address correspondence to William Isler, 416 Leader Bldg., Cleveland 14, Ohio. Groups 33-52; 40. Reg. No. 8,977.

PAT. 2,428,864. Magnet. Patented Oct 14, 1947.
A magnet for recovering small metal objects dropped in small or poorly lighted recesses. A tubular metal casing, sized to fasten by a clip into a pocket, serves as carrier and handle for the magnet. A bar magnet is so mounted by a spiral spring to a block, which slides and latches within the casing, that it may follow curvatures when thrust into a space of irregular shape. It may be lowered by a string into a deep cavity. (Owner) Charles R. Boyd, 2764 Second Blvd., Detroit 1, Mich. Groups 25-42-43; 33-12-91; 36-12-91. Reg. No. 8,978.

PAT. 2,425,621. Vibrator. Patented Aug 12, 1947.
An electric vibrator comprising two interacting electromagnets, one fixedly mounted and one resiliently mounted. One electromagnet is supplied with direct current and the other with alternating current. (Owner) Francis E. Knipper. Address correspondence to Munn, Liddy & Glascum, 24 West 40th St., New York 18, N. Y. Groups 36-21; 39-91. Reg. No. 8,979.

PAT. 2,082,634. Toilet set. Patented June 8, 1937.
A case for tooth brush and tube of tooth paste, in which the brush and tube are suspended in a tiltable inner holder frame. The threaded neck of tube projects upwardly through a hole in the top plate of the frame and is held in place by a perforated screw cap. Brush handle projects through slot in plate, and bristle end rests on bottom of ventilated holder. Paste may be squeezed out without removing tube from frame. When not in use, tube is sealed tightly by a cork disc positioned in inner end of casing cover. Casing may be made of any suitable material and in any suitable shape. Modifications show similar cases for other toilet articles. (Owner) Frank J. Hofmann, 853 Jackson Ave., New York 56, N. Y. Groups 39-81; 40. Reg. No. 8,980.

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